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ELEMENTARY HOME ECONOMICS

Ready for Work

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION
BUREAU OF EDUCATION

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ELEMENTARY HOME ECONOMICS

A TEXTBOOK FOR GIRLS IN
THE INTERMEDIATE SCHOOLS OF THE
PHILIPPINE ISLANDS

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FOREWORD

The textbook presented herewith provides the material for both theoretical and practical study in the fifth, the sixth, and the seventh-grade courses in elementary home economics. This material is a rearrangement and slight revision of *Housekeeping* by Butts, published in 1919, with which has been incorporated the seventh-grade textbook, *Food Selection and Diet and Home Nursing*, the first edition of which was sent out from this Office at the beginning of the present school year.

LUTHER B. BEWLEY
Director of Education

MANILA, *September 1, 1925*

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PART I

FIFTH-GRADE HOUSEKEEPING AND COOKING

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PART I

FIFTH-GRADE HOUSEKEEPING AND COOKING

CHAPTER I

PERSONAL HABITS IN THE KITCHEN

DRESS.—In the kitchen wear an apron instead of the regular school dress. The apron should have short sleeves, a belt, and a pocket. To prevent loose hairs from falling into the food, wear a cap that entirely covers the hair.

[redacted]

HANDS.—Do not wear rings while working in the kitchen. Wash the hands, and clean the nails before starting to cook. Always wash the hands after touching the face, the hair, a handkerchief, or anything other than cooking utensils or cooking materials.

TOWELS.—For drying the hands, use an individual hand towel. This may be fastened to the left side of the belt. Do not use the hand towel for drying dishes or for dusting.

HOLDERS.—In addition to individual holders, common holders hung on nails or on hooks in the kitchen are convenient.

TO THE TEACHER.—Have each girl make her cap and apron. Let the girls keep their caps and aprons in a locker in the school kitchen or let them take them home at the end of each day's work. If the caps and the aprons are kept at school, see that they are dry when put away. Show the girls the arrangement of the school kitchen; show them the utensils, dishes, linen, and cutlery, properly placed in the drawers, closets, and shelves set apart for kitchen supplies. Demonstrate the proper method of washing the hands and of cleaning the nails.

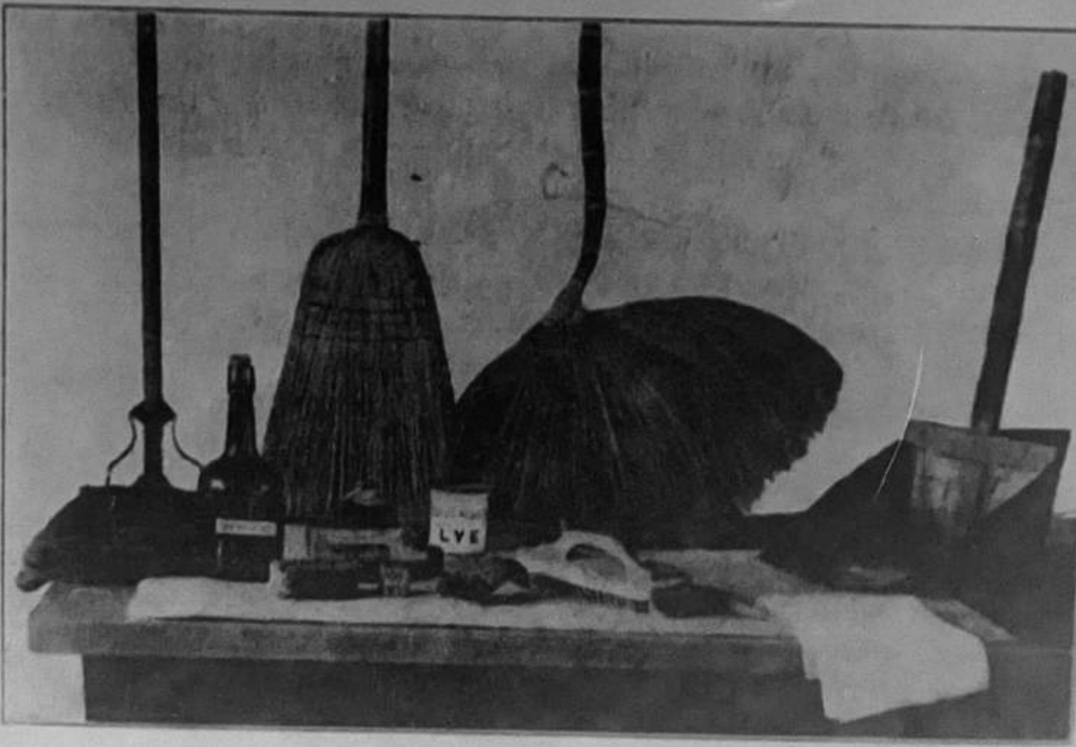
CHAPTER II

SWEEPING AND DUSTING

SWEEPING.—While sweeping protect the hair with a dustcap. Before sweeping the kitchen, put away or cover all food; brush off the stove and around it. Sweep the walls of each room in the house with a long brush or with a soft broom; brush off the mopboards and the ledges. To sweep the floor, begin at the side or in a corner of the room and sweep toward the center.

Hold the broom near the floor, and take the dirt along with short strokes instead of tossing it in the air. Go back frequently to catch the dirt that blows back. Sweep the dirt into a pile near the center of the floor and take it up with a dustpan and a brush or a small broom. Burn it immediately or empty it into the refuse can. Do not sweep dirt from one room to another.

Dusting.—When the dust has settled, wipe all woodwork and all furniture with a clean dustcloth. Not only the top, but the entire surface of each piece of furniture should be wiped until it is free of dust. Wipe the dust into the duster; that is, fold the dust well inside the cloth. Dampen the cloth a little, except for highly polished surfaces. When the cloth becomes grimy, exchange it for a clean cloth. Do not use a feather duster, because this only scatters the dust. Dusters should be of a soft material that does not shed lint.



Implements and Materials Used in Cleaning

Care of Dustcloths, Brooms, and Dustbrushes.—After being used, dustcloths should be washed thoroughly and dried outdoors. Wash stiff brooms frequently in soapy hot water and hang them up to dry. Remove lint and dust from soft brooms. Brush all lint from dustbrushes. Wash them occasionally in warm (not hot) water, and hang them in the open air to dry.

Practical Work.—Sweep the kitchen and dust the furnishings. Put away in the best possible order the implements used.

CHAPTER III

CARE OF FLOORS

FLOORS.—Hardwood floors may be polished with either kerosene, crushed banana leaves, or floor wax. Floors should be free of dust and dirt before the polishing is begun. Softwood floors may be scrubbed with a floor brush and wiped dry with a cloth; or they may be scrubbed with a long-handled scrubbing brush and wiped dry with a mop.

METHOD OF SCRUBBING.—Rub soap and sand on all grease spots. Dip the scrubbing brush in water, rub soap on it or dip it in a soap solution, and with it scrub the floor with the grain of the wood. Wash the soap off the floor and wipe the floor thoroughly. Change the water frequently while scrubbing. Use as little soap as possible. Do not deluge the floor with water. Part of the floor may be finished at a time; or, if preferred, the whole floor may be scrubbed with a long-handled scrubbing brush, after which it may be rinsed and wiped dry with a mop. When the scrubbing is finished, wash and rinse the brushes and the cloths; dry them in the open air.

PRACTICAL WORK.—Sweep and scrub the kitchen floor. If the school has a domestic-science building, the floors of other rooms may be swept and scrubbed.

CHAPTER IV

THE KITCHEN FIRE

Most cooking in the Philippines is done over wood fires in simple clay stoves. Sometimes it is done over fires built in a box or in a frame, the floor of which is of dirt, the cooking utensils being supported by stones or by iron tripods.

MATERIALS.—Air, fuel, and matches are needed for a fire. The fuel may be paper, shavings, wood, charcoal, coal, kerosene, denatured alcohol, or gas.

METHOD OF BUILDING A FIRE.—Remove all ashes. Use either dry leaves, shavings, or crumpled paper for the kindling in the bottom of the stove. Then put in small pieces of wood, piling them loosely and crosswise. Lay larger pieces of wood on top, leaving spaces through which air can pass freely. Light the kindling. Add fuel when needed.

A CHARCOAL FIRE.—If a charcoal fire is desired, put on charcoal after the kindling. Charcoal should not be burned in open stoves in closed rooms. Poisonous gases are formed which, if inhaled, are dangerous. When using matches, close the box before striking. Do not use kerosene in building fires. Keep matches out of the reach of children.

Practical Work.—Build a fire, following the directions given. Heat water in an uncovered kettle. Note the simmering point; the boiling point.

REVIEW

1. Use in sentences:
   blaze
   flame
   ashes
   charcoal
   kindling
   shavings
   smoke
   kindle
2. What kind of wood is used for fuel in your house?
3. Name a kind of wood that burns easily.
4. Name some kinds of wood that are hard and heavy.
5. What kind of wood makes good charcoal?
6. Tell some of the uses of charcoal.
7. How is charcoal made?
8. How is it sold in your town? What is the price paid for it?
9. Calculate the weekly cost of fuel used for cooking in your house.
10. What are the advantages of using charcoal for cooking; the disadvantages?

CHAPTER V

WASHING DISHES AND UTENSILS

Things Needed.—The following things are needed in washing dishes:

Dishpan, half full of soapy hot water.
Rinsing pan, half full of clear hot water.
Draining pan or tray.
Good soap in a shaker, or a soap solution.
Plenty of hot water, to be added, when needed, to the dishwater or to the rinsing water.
Dishcloths, for washing dishes.
Dishtowels, for drying dishes.
A tray on which to take away the clean dishes.

Preparation.—Scrape the bits of food from the dishes into a plate. Feed these scraps to dogs, to cats, or to chickens, or empty them into the garbage can. Soak in cold water the dishes that have been used for eggs, for milk, or for starchy food, and soak in hot water dishes used for sugary and for other sticky foods. Pile all dishes of a kind together. Never place one glass inside another. Steel knives and steel forks should be placed together. Wipe greasy saucepans and greasy frying pans with a leaf or with soft paper; then soak them in hot water.

For convenience and to avoid waste of time, place soiled dishes on the table at your right, the dishpan at the left of the soiled dishes, the rinsing pan at the left of the dishpan, the draining pan at the left of the rinsing pan, and the clean dishes at the left of the draining pan.

ORDER OF WASHING.—Wash the cleanest article first. The following order is suggested: glasses, first; silver, second; china, third; saucepans and other cooking utensils, fourth.

Cooking utensils may be washed first if sink space is limited.

A Systematic Order of Washing Dishes

Glasses, Silver, China, Cooking Utensils

METHOD.—Wash dishes in soapy warm water; rinse them in hot water; dry them with clean dishtowels; and place them where flies and dust cannot get to them.

The water should be very soapy, but it is not necessary to leave the soap so long in the water that the bar softens and the soap is wasted. If no shaker is at hand, rub the soap on the dishcloth. Be sure to change the water in both pans when it becomes greasy or when it becomes cool.

WASHING GLASSES.—When washing drinking glasses, take one at a time and, to avoid cracking, roll it sideways in the water so that the outside and the inside may become equally heated. Wipe glasses at once because they will be streaky if they are drained. Use a soft brush for deeply grooved glassware.

KNIVES AND FORKS.—Do not put steel knives, steel forks, or knives and forks with wooden handles into the dishwater. Do not pour very hot water over the blades of knives or over the tines of forks with wooden handles, because sudden expansion of the steel due to the heat will cause the handles to crack or to loosen although they are not in the water. Hold the knife or the fork in the left hand and wash it with the cloth. When all are washed, put ashes on a damp cloth and, with this, rub the blades of steel knives and the tines of steel forks until they are bright. Then wash them; rinse them in warm water and wipe them dry.

Do not clean silver with ashes. Use whiting or some reliable silver polish.

CHINA.—Handle dishes so they will not be chipped by knocking against each other. When placing them in the rinsing pan, be careful to lay them so they will not slide or fall forward. Do not be a noisy dishwasher.

COOKING UTENSILS.—Wipe greasy saucepans and greasy frying pans with a piece of banana leaf or with a piece of paper; soak them in hot water; then wash them well inside and outside, cleaning the seams carefully.

Bread Pans Muffin Pan Frying Pans Bread Toaster and Broiler

Do not scrape enamel ware. Careful soaking will make scraping unnecessary. If enamel ware is put on the stove to dry, it is liable to crack. If an enameled teakettle is allowed to boil dry, the lining will crack and peel off. If the utensil is dropped the enamel may crack and come off in places.

Stewpan

Kettle

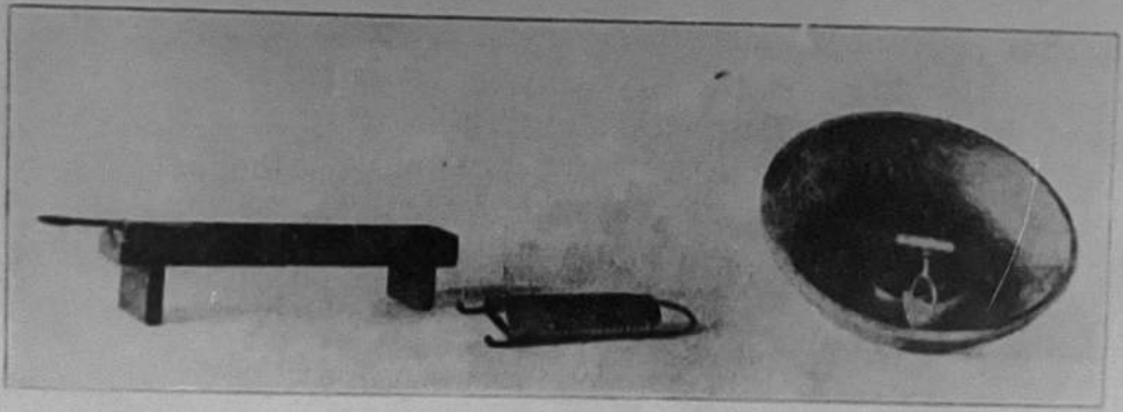
Iron Pot

Wash the coffeepot in clean warm water. Be sure that both the vessel and the spout are clean inside. Rinse in hot water and wipe dry inside and outside.

Meat and Vegetable Cutter Mixing Bowl Sifter Cup Measuring Funnel Strainers

To prevent rusting put away iron utensils perfectly dry. In damp weather or when they are not in constant use, rub them with a little oil or with a little lard before putting them away.

Woodenware holds odors unless properly cared for. Wood needs sun and air to dry it; stove heat cracks it.



Coconut Shredder Grater Chopping Bowl

Practical Work.—Heat water. Wash dishes and utensils, following the directions above.

When the dishes are washed and dried, pile all dishes of a kind together and put them away. Empty the dishpans; wash, rinse, and dry them thoroughly. Wash and rinse dishcloths and dishtowels; hang them up to dry. Wash the table and the sink.

Chapter VI

CLEANING THE KITCHEN TABLE, THE CUPBOARD, THE SINK, AND THE GARBAGE CAN

The kitchen table should be kept clean by scrubbing and scouring it frequently. Use *Isis* if it is obtainable. *Isis* is the

Tagalog and the Visayan name for a shrub (with rough sandpaper-like leaves) used for scouring. It is called *alasas* in Pampango; *oplas* in Ilocano; and *hagopet* in Bicol.

Scouring the Table with Ashes or with Sand.—Use a soft closely woven cloth, slightly wet, with plenty of ashes or sand soap on it. If the cloth drips, the grit dissolves too quickly; if the meshes are too large, the grit soaks into the cloth instead of staying where it is needed—between the cloth and the surface to be scoured. Always rub with the grain of the wood, and rub hardest where grease spots are. Clean the cracks with an old knife. Do not let water run over the edges of the table; but be careful to wash the edges. When the table has been scoured sufficiently, wash it with clean water, rinse it, and wipe it dry.

If the kitchen table is covered with zinc, clean it occasionally with kerosene; then wash it well with soapy hot water; rinse it and wipe it dry.

Cleaning the Kitchen Closet or the Cupboard.—Take articles from one shelf at a time, beginning with the things on the top shelf. Dust each piece and place it on the table. Do not mix articles from different shelves; this only makes confusion later.

Dust the shelves with a damp cloth, scrub them with a brush and hot water, rubbing with the grain of the wood; wipe them with a clean cloth. When the shelves are thoroughly dry, replace everything in an orderly manner. A closet may be clean and yet not attractive in appearance.

Mold and an unpleasant odor result if a closet is closed before it is allowed to dry thoroughly.

Sink.—Avoid letting grease, scraps of food, coffee grounds, etc., drop into the sink. Keep a strainer over the waste pipe. If waste gets in the sink, do not try to wash it down by flushing with water, but remove it at once.

When the dishwashing is finished, wash every part of the sink with soap and hot water. Clean the surfaces behind the pipes. Flush the sink with boiling water every day and with strong lye solution once a week.

Garbage Can.—A garbage can should never be left open. It should be emptied every day, washed well, scalded, and put in the sun to dry.

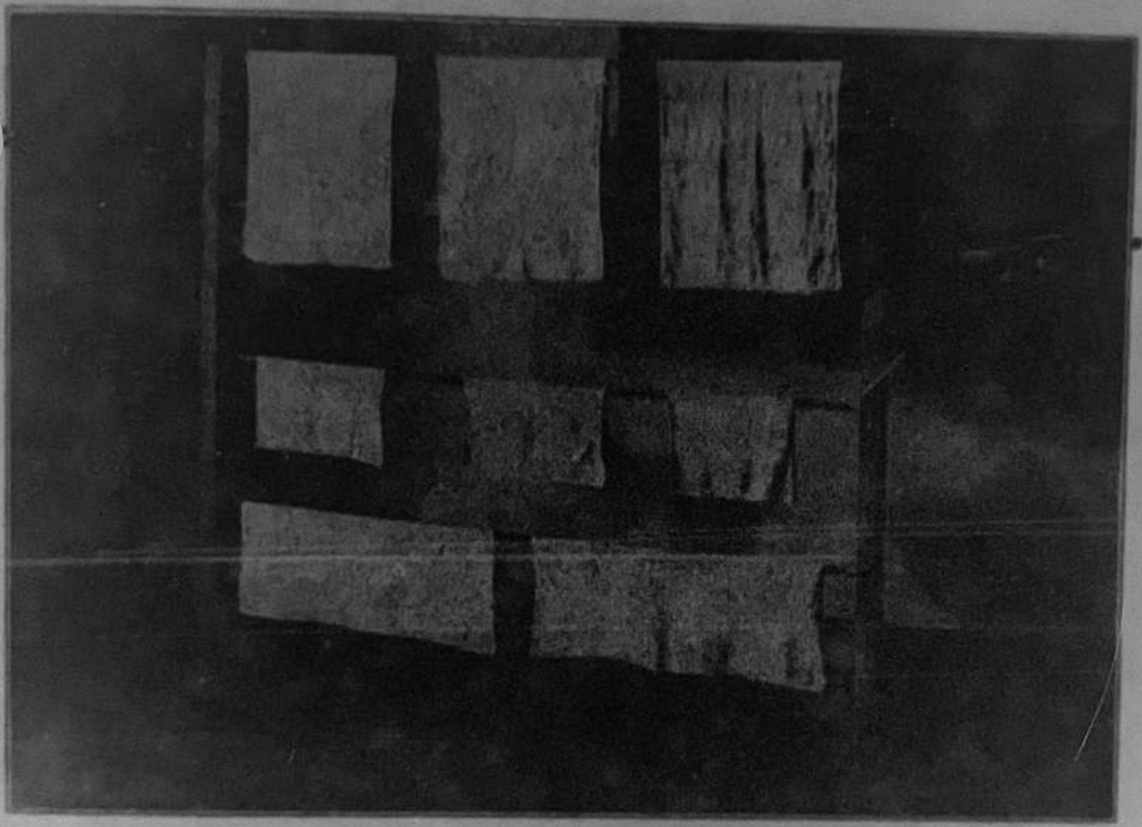
Practical Work.—Scrub the kitchen table; clean the cupboard, the sink, and the garbage can.

CHAPTER VII

CARE OF DISHCLOTHS, DISHTOWELS, AND HOLDERS

Towels and cloths used in housekeeping should be hemmed. Each cloth should be used only for the purpose for which it is intended.

After being used, dishcloths and dishtowels should be washed thoroughly, rinsed, and dried on a line outdoors. They should be boiled at least once a week.



Towel Rack

Top, Dishtowels; Middle, Dishcloths; Bottom, Dustcloths

HOLDERS.—In addition to individual holders, it is convenient to have holders on hooks near the stove. Holders should be changed when necessary and the soiled ones should be washed.

PRACTICAL WORK.—Build a fire; heat water; wash the dishcloths and the dishtowels, and hang them up to dry.

KITCHEN "NEVERS"

Never use a handkerchief or an apron in place of a towel or a holder.

Never work with sticky fingers and never lick them.

Never touch your face or your hair and never use your handkerchief without washing your hands immediately afterwards.

Never use a hand towel in place of a dishtowel.

Never put food in the hand basin; never wash food in it.

Never taste the contents of a mixing spoon without first pouring the contents from the mixing spoon into a tasting spoon.

Never leave the spoon in the pan when food is cooking.

Never shake food from the spoon by striking the spoon on the edge of the bowl or on the edge of the pan. If a shake does not dislodge the mixture, remove it with a knife.

Never throw waste from the window.

Never leave a drawer partly open.

Never blow on food to cool it.

CHAPTER VIII

THE ICE BOX

CLEANING THE ICE BOX.—Remove the ice and the food; take out the shelves and the ice racks; scrub the shelves and the racks in soapy hot water; rinse them and put them in the sun to dry; scrub the floor and the walls; be careful to clean the corners well; with the help of a wire, draw a cloth through the drainpipe because dirt often lodges there; scald the inside of the box with clear boiling water and wipe as dry as possible.

Leave the box open until dry, after which replace the racks, the shelves, the ice, and the food; close the doors and wipe the outside with a damp cloth.

Examine the ice box daily to be sure no bit of food is left there to spoil or to mold. Clean the box at least once a week. Always wash off the block of ice before putting it in the box.

A pan to catch water from the melting ice is commonly found under an ice box. This should be emptied when necessary and should be cleaned when the ice box is cleaned.

Food with a strong odor and hot food should never be put in an ice box.

PRACTICAL WORK.—Clean the ice box; if the school is not supplied with one, give the kitchen a general cleaning.

CHAPTER IX

KEROSENE LAMPS

A bright light comes from a clean burner that allows a good draft. Daily care will bring about this result.

Have a regular time for cleaning lamps. Do the work on a shelf or on a table on which no food is kept and on which no food is prepared or served.

CLEANING AND FILLING LAMPS.—Remove the shades and wipe them carefully. Wash the chimneys; rinse them in hot water; dry them with a clean cloth (used only for drying lamp chimneys). If a chimney is sooty, clean it with a bit of paper before washing it.

Remove the cap or the burner and fill the bowl of the lamp up to within 2½ centimeters of the top. Screw on the cap or the burner securely.

Turn the wick just high enough to make it possible to see all of the charred edge. Rub off the char with soft paper and trim off any protruding points. Wipe the lamp on the outside with the lamp cloth. Turn the wick down; if it is left up, the oil will run over the tube.

With clean hands, replace the chimney and put the lamp in place.

Once a month, give the lamp a thorough cleaning according to the following directions:

Take the lamp apart.

Clean and polish the chimney.

Boil the burner in soapy water or boil in water to which has been added 2 tablespoons of soda. The latter is preferred.

Put in a new wick if needed.

Put the parts securely together.

Wash the lampcloths.

Never fill a lamp while it is near a lighted lamp or while it is near an open fire.

To extinguish the light, turn it down and blow across the chimney. Never blow down into the chimney, because this may send the flame into the oil.

PRACTICAL WORK.—Clean the school lamps. If there are no lamps in school, bring in a few. Take the lamps apart, boil the burners, clean the chimneys, and fill the bowls. Put in new wicks if needed. Put all parts securely together. Light the lamps to see that they burn properly. Extinguish the lights.

CHAPTER X

HOUSEHOLD PESTS

Bedbugs, cockroaches, ants, mosquitoes, rats, mice, flies, and fleas are annoying, dangerous to health, destructive to property, and are rightly called household pests. Because they flourish in dark, damp, filthy places, cleanliness will do much toward keeping them away. But, if they get started, a housekeeper should know how to get rid of them. A few simple methods of extermination are given here.

BEDBUGS.—To exterminate bedbugs, pour boiling water into cracks and over furniture which will not be injured by this process. After this pour kerosene into the cracks and run a brush that has been dipped in kerosene over all surfaces. Repeat every few days to kill bugs that may be hatched. Carefully brush and air all bedding, such as mats, pillows, and blankets. Continue until every sign of bugs disappears.

Cockroaches.—Freedom from dampness is necessary if the house is to be kept free from cockroaches. A solution of ½ kilo of alum to 1½ liters of water should be poured into all cracks where they are found.

Ants.—To keep ants out of food, place the legs of receptacles in which food is kept, and the legs of tables on which food is prepared, in cans of water into which a little kerosene is poured. A basket containing food and hung from the ceiling should have a bit of string, soaked with petroleum, tied around the rattan or round the wire with which it is suspended. Repeatedly pouring boiling water or scattering borax over ants' runs will help to drive them away.

White Ants.—The runs of white ants should be scraped away and the places soaked with petroleum. Housekeepers should make sure that the floor under trunks, under chests, and under other furniture is cleaned daily.

Rats and Mice.—Rats and mice are best exterminated by the use of traps, but a good cat properly cared for will do much toward keeping them away.

Fleas.—Fleas may appear if cats or dogs are kept in the house. Frequent baths should be given these pets and the rugs on which they lie should be brushed and shaken daily. However, it is more sanitary to keep cats and dogs out of the house.

Bubonic plague is carried by rats and by fleas. A flea that bites a rat having the disease takes the germs in with the blood that it sucks. Then, if that flea bites a person, some of the germs get into the wound. The germs increase in number until the person has bubonic plague.

Mosquitoes.—Mosquitoes breed only in water. Some breed in the dirtiest water such as that of cesspools, of privy vaults, and in drains from these places, while others breed in comparatively clean water in tins, in water tanks, in jars, in bamboo fence posts, and in similar places. Some mosquitoes prefer to lay eggs in rain water.

The mosquito lays its eggs on the surface of the water. The wrigglers hatch in twenty-four hours. They then go beneath the surface to obtain food. They need to come to the top at regular intervals to breathe; otherwise, they drown.

Kerosene, if regularly used in small quantities, is the most effective preventive of the breeding of mosquitoes. A very little kerosene will spread over the surface of a large pool of water and will produce a filmy layer on the surface, through which a young mosquito cannot push his breathing apparatus. Without air, he dies.

Standing water even if pure at first soon becomes filled with dust particles which, when decayed, furnish food for wrigglers.

Some mosquitoes carry malaria germs and some carry dengue germs. The germs get into the body only through the bite of a mosquito. You can protect yourself from these maladies by sleeping under a net and by destroying mosquitoes.

Mosquitoes may be destroyed (1) by putting ½ cup of kerosene in each privy vault, in each cesspool, and on all stagnant water twice every month; (2) by putting 1 teaspoon of kerosene in each of the vessels of water in which the table legs and the cupboard legs are inserted; (3) by destroying or by putting in the refuse can all broken tins, bottles, jars, etc.; (4) by covering or by screening wells and water tanks; (5) by clearing away dead banana leaves, weeds, bushes, and tall grass because these furnish hiding places for mosquitoes; (6) by draining the larger pools and by filling the smaller pools with earth.

FLIES.—Flies are great carriers of typhoid and of other disease germs. They lay eggs in horse, cow, or carabao manure, in human excreta, and in decayed flesh of dead animals. Places where horses, cows, or carabaos are kept should be cleaned daily and should be sprayed frequently with kerosene. Privy vaults should receive a layer of sand or of ashes each time they are used and they should be sprinkled every few days with dry lime. The housekeeper should know that the fly and the cockroach may leave disease germs on food and on dishes.

MOTHS.—The silver-fish moth is troublesome in the Philippines. It eats silk, lace, piña, jusi, and any other fine cloth laid away with stiffening in it. Clothing to be protected from this moth must be put away in insect-proof boxes.

REVIEW

1. What pests annoy you at home?
2. What seems to attract them?
3. How can you exterminate them?

TO THE TEACHER.—If any pests are in or about the schoolroom discuss their habits, what seems to attract them, and where they come from. Try to exterminate them. Have the girls report on pests they may have at home. Encourage them to exterminate these and call for reports from time to time on the success of their efforts.

CHAPTER XI

WATER

Some water is hard; some is soft. Hard water contains much dissolved mineral matter. Soft water has very little mineral matter in it. Rain water is soft water.

Try making soapsuds in hard and in soft water. Which do you prefer for cleaning? Boil hard water. Try to make soapsuds in this boiled water. Boiling causes some of the lime to come out of hard water and to settle on the bottom of the kettle. Thus the water is softened.

Some water is pure; some is impure. Artesian water is supposed to be pure. Pure water is free from dangerous germs.

Water may be made safe by thorough boiling. Drinking water should be boiled unless it is known to contain no dangerous germs.

Water from a hot-water faucet should be used only for cleaning and never for drinking or for cooking, because the collection of impurities in the boiler makes it unfit for any use other than for cleaning.

HOW TO BOIL WATER FOR DRINKING.—Use a clean kettle with a close-fitting cover and a charcoal fire with no smoke. Water heated over a smoky fire tastes smoky. Strain the water through a clean white cloth into the kettle and place over the fire. When it is hot and ready to boil, watch it carefully. Where do the bubbles first form? Small air bubbles appear on the bottom and on the sides of a vessel containing simmering water. How do you know when water is boiling? Large bubbles of steam are near the top and on the surface of boiling water. Water should be boiled fully twenty minutes to kill the germs it contains. When the water has boiled twenty minutes, pour it into a clean jar, preferably one with a faucet. after which keep the jar covered.

Cups should not be dipped into drinking water, because this may contaminate the water.

Diseases of the bowels such as dysentery and cholera and fevers of various kinds are often caused by drinking impure water.

Water Jar with Faucet

Practical Work.—Prepare drinking water by boiling it thoroughly.

REVIEW

1. What is hard water? soft water? pure water?
2. What kind of water is best for cleaning?
3. How does boiling affect hard water?.
4. Why is artesian water supposed to be pure?
5. How may water be made safe for drinking?
6. What diseases are sometimes caused by drinking impure water?
7. How long should drinking water be boiled?
8. How can you tell when water is simmering?
9. When is water boiling?

CHAPTER XII

REMOVING STAINS

Some of the stains on clothing require special treatment before they can be removed. Examine clothes for such stains before washing them.

To remove *fruit, tea, and coffee stains*, lay the stained part over a bowl and pour boiling water through it slowly.

To remove *cocoa and chocolate stains*, soak the stained part in cold water fifteen minutes. If it does not disappear, change the water and soak again, after which pour boiling water through it.

To remove *iron rust*, wet the stained part with a paste made of lemon juice, salt, starch, and soap, and expose it to the sun. Several applications may be necessary. If the stain is old, this method may not be effective. Camias may be used instead of lemon.

Four methods of removing *ink stains* follow:

1. If the ink stain is fresh, soak the stained portion of the cloth in fresh milk.
2. Ink may be removed by treating the stain with lemon juice and salt.
3. To remove some ink stains, use alcohol.
4. Use camias, acetic acid, or tartaric acid only on white goods. Milk is the only reagent that does not remove color from fabrics.

Mildew of long standing is difficult to remove. One way to remove mildew is to put lemon juice and salt on the stains and expose to the sun. Another way is to cover the stains with a paste made of 1 tablespoon of starch, the juice of one lemon, soap, and salt and expose to the sun.

To remove *machine oil* and *paint*, rub the spots with turpentine or with alcohol.

To remove *blood stains*, soak the stains in a cold solution of ammonia and water, using 1 tablespoon of ammonia to each liter of water.

To remove *grass stains*, soak in alcohol. If the fabric is not of delicate colors and if the stain is fresh, treat with ammonia water. For a colored fabric apply molasses or a paste of soap and cooking soda. Let stand over night.

To remove *tar*, saturate the spot with kerosene or with turpentine.

When a garment is slightly *scorched* with a hot iron, put the garment in the sun and let it remain until the mark disappears.

PRACTICAL WORK.—Remove stains from pieces of cloth or from garments brought to class.

CHAPTER XIII

BLEACHING FABRICS AND SETTING COLORS

BLEACHING.—Directions for three methods of bleaching follow:

1. Wash the fabric well in soapy warm water; boil, rinse, and dry in the sun.

2. Place the well-soaped fabric on a clean grassplot in the sun. Wet the cloth occasionally as it dries.

3. Dissolve 1 tablespoon of cream of tartar in 3 liters of boiling water. Soak the article to be bleached for twelve hours in the solution. Then rinse, blue, and dry in the sun.

Setting Colors.—When colors are liable to fade or to run, it is possible to set them by soaking them in certain solutions. For red, for black, and for pink use ½ cup of salt to 4 liters of water; for blue use ½ cup of vinegar to 4 liters of water; for green use 1 tablespoon of alum to 3 liters of water.

After setting the color, wash the garment in warm suds, rinse it quickly, and hang it wrong side out in the shade to dry.

Practical Work.—Bleach a few cotton garments. Bleach a linen handkerchief or some other article of linen. Set colors in garments or in pieces of cloth.

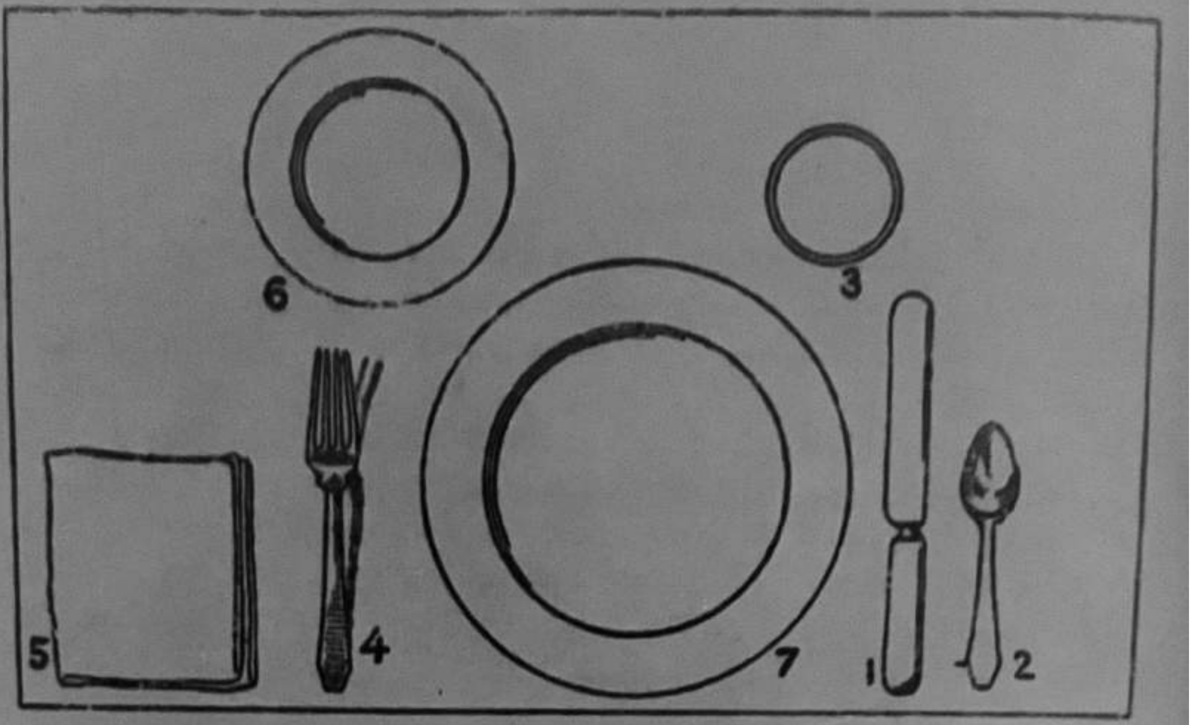
CHAPTER XIV

SETTING THE TABLE

The Table.—Habits of order and habits of neatness may be cultivated at any table. Meals are much more pleasant and are much more appetizing when served on a clean table, set with plates, cups, and spoons for each member of the family. If the table is covered with white oilcloth, it will be easier to keep clean, and the appearance will be improved. Schoolgirls should be taught table setting and table service, because these things give much pleasure and are marks of refinement and culture.

Setting the Table.—Wipe the table with a clean dustcloth. Put on the silence cloth, which should be of felt or of cotton flannel. The silence cloth is used to protect the table top, to prevent noise, and to improve the appearance of the tablecloth. Over the silence cloth place the tablecloth with the hemmed edges underneath, with the center over the center of the table, and with the middle fold upward. The edges of the cloth hanging over the edges of the table should be the same distance from the floor on opposite sides. A low vase of flowers or of leaves or a small potted plant on a dainty centerpiece in the center of the table will make it more attractive.

The space on the table occupied by the articles shown in the illustration is called a *cover* or a *place*. A set of such articles is called a *service*. Fifty centimeters should be allowed for the length of each cover. The service should be about 2½ centimeters from the edge of the table and a space should be left between covers.



Arrangement of an Individual Place at the Table

1. Knife. 2. Spoon. 3. Water Glass 4. Fork. 5. Napkin. 6. Bread-and-Butter Plate. 7. Dinner Plate. (Adapted from Conley's *Principles of Cooking.*)

ARRANGEMENT OF THE SERVICE.—In the center of each cover, put a plate (inside up). If the table is oblong, place one plate at each end of the table; and those at the sides opposite each other. If the table is round, arrange the covers at equal distances apart. Place the knife (with the sharp edge turned to the left) at the right of the plate. Place the fork (with the tines up) at the left of the plate. Place the spoons at the right of the knife, putting the spoon needed first on the outside. Place the napkin (folded flat) at the left of the fork, and the bread-and-butter plate near the tines of the fork. Place the water glass (with top up) just beyond the tip of the knife. Place salt and pepper where they can be conveniently reached. If individual salt dishes are used, place them between the plate and the center of the table.

When arranging the table for a meal, do not crowd it with unnecessary articles.

Arrange the chairs so the front edge of the seat is just even with the edge of the table.

About two minutes before announcing a meal, fill the glasses three fourths full of water and place the bread and the butter on the table.

TO THE TEACHER.—Demonstrate the setting of a table, using the tableware in the school kitchen. Adapt the demonstration to home conditions, after which teach the conventional way of setting the table.

CHAPTER XV

SUGGESTIONS ON SERVING

"Breakfast is served," "luncheon is served," and "dinner is served" are proper expressions to use when announcing that a meal is ready.

SEATING.—The host sits opposite the hostess. The place of honor for a man is at the right of the hostess. The place of honor for a woman is at the right of the host.

SERVING.—A tray may be of much help in serving and in removing small dishes from the table. It saves steps, it saves time, and it results in better service.

If there are no guests, serve first the woman who presides over the household. When guests are present, serve first the woman at the right of the host or serve the hostess first.

Dishes from which a guest helps himself should be offered him at his left, and the tray should be held a little above the level of the table. The handle of the serving fork or serving spoon should be over the right edge of the dish. No one should use his fork or his spoon for helping himself. The person serving should stand at the right of the person seated when setting dishes down in front of him, and at the left when receiving dishes from the person carving the meat or serving the dessert.

When passing a glass, the fingers should be placed near the bottom, never over or near the top.

When one course is finished, everything not needed for the next course should be removed.

CLEARING THE TABLE.—After the meal, remove the dishes from the table. A large tray is useful for this purpose. First, remove the dishes containing food, putting the food to be saved on small dishes; second, remove the soiled dishes; and third, remove the clean dishes and the clean silver. With a napkin, brush the crumbs from the table into a plate. Take the cloth from the table, fold it in its creases, and put it away.

Do not leave the cloth and the dishes on the table between meals unless the room can be closed and shut off from the rest of the house. Dust and germs collect on articles exposed in a room where people are sitting and passing. The habit of leaving a table set is not a sanitary one.

A cover, preferably one of some colored material, and a plant or a few flowers may be used to adorn the table between meals.

TABLE SERVICE WITHOUT A SERVANT.—Good table service may be had in the home without a servant. Everything going with each course is placed on the table at one time. The father, assisted by some other member of the family, places the servings on each plate. He first waits on those whom he wishes most to honor and he names the one for whom the plate is intended. The mother may pour the coffee or the chocolate. When one course is finished, some member of the family removes the plates and brings the things necessary for the next course. When the meal is finished, a member of the family removes the dishes, puts the dining room in order, washes the dishes, and leaves the kitchen clean and in order.

CHAPTER XVI

TABLE MANNERS

RULES.—These rules concerning table manners have grown out of the long-continued practice of thoughtful people:

When it is announced that a meal is ready, go at once to the table.

Take your seat at the table from the left side of the chair and rise from the same side.

Sit upright at the table.

Spread the napkin across the lap; do not tuck it in the collar.

If members of the family are serving, wait until all are served before you begin to eat; but when there are trained waiters and several courses, begin without any show of haste as soon as you are helped.

When not eating, keep your hands in your lap.

Dip soup away from the body and sip it without noise from the side of the spoon.

Do not cool soup or any other food by blowing on it.

Never leave a spoon in a cup; leave it on the saucer. If no saucer is used, leave the spoon on the side of the plate.

Keep the lips closed when chewing.

Do not make a noise when eating.

Put only a small portion of food in the mouth at one time.

Do not try to speak with food in the mouth.

Hold the drinking glass in the right hand, with the fingers near the bottom. Drink only a little of the contents at a time.

Use the knife only as a divider. Place it on the edge of the plate when you are not using it.

With the right hand, use the fork to convey solid or semi-solid food to the mouth.

No gesticulations should be made with the knife or with the fork.

A spoon is used only for food too soft to be easily handled with a fork.

Never reach across the table for food. Ask to have it passed.

Speak in low well-modulated tones at the table and talk about cheerful subjects.

When the meal or when one course is finished, place the knife and the fork across the center of the plate with the handles a little to the right, so they may not be in the way when the plate is removed. The tines of the fork should be up.

Keep everything about your plate as neat as possible.

Do not scrape the plate or tilt the dish to remove the last bit of food.

Toothpicks should be used only in private.

At the end of the meal fold your napkin, holding it while doing so below the level of the table.

If it is necessary to leave the table before the meal is finished, say to the hostess, "Please excuse me."

If a blunder is made or if an accident occurs at the table, do not show displeasure toward the servant or the guest responsible.

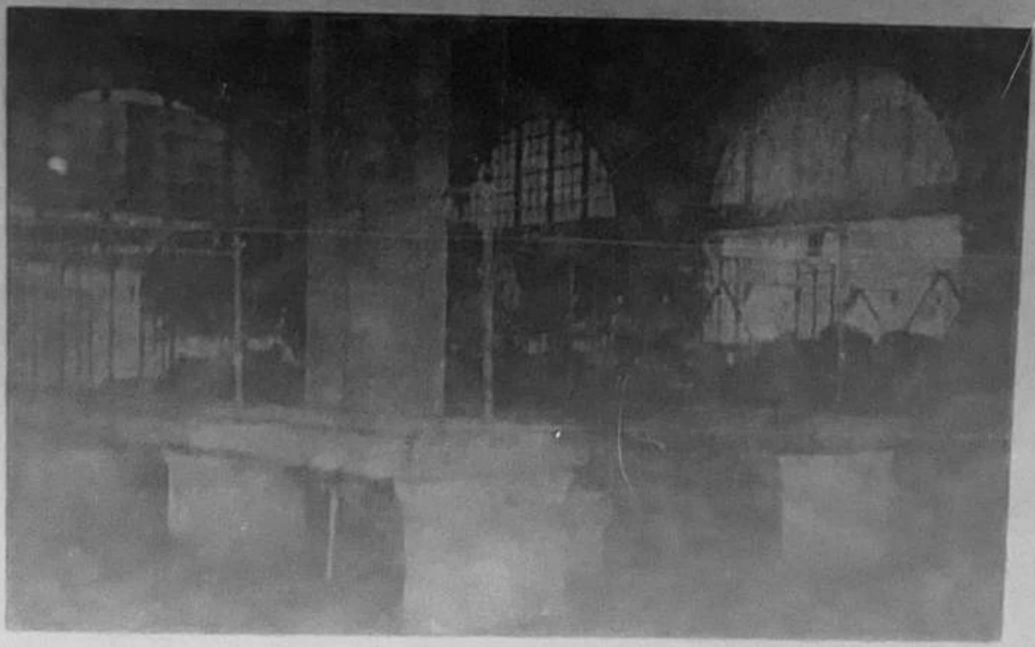
To THE TEACHER.—Have the pupils read the lesson on table manners in "Good Manners and Right Conduct" for the fifth grade. Seat some of the girls at the table and give, as far as is possible, a practical demonstration of correct table manners.

CHAPTER XVII

THE MARKET

Most food used in the home comes from the market. Therefore, the condition of the market should interest every housekeeper.

A model market is clean and is sanitary. Different foods are arranged in an orderly manner on tables, the tops of which are far enough from the floor to allow air to circulate underneath. Screens protect the meats and the cooked foods



Interior of a Market Kept in a Sanitary Condition from insects. Customers are not allowed to handle the food. Receptacles are provided for garbage, and running water is available for market workers to wash their hands. No animals are permitted to run loose in a sanitary market.

Practical Work.—Visit the local market. Compare it with a model market. Make a list of foods found in the local market.

CHAPTER XVIII

COMMON FRUITS

Fresh fruit is wholesome and should be used freely, because the body needs it to purify the blood and to keep the tissues sound. Fruit is easily digested if it is not eaten underripe or overripe.

1.

2.

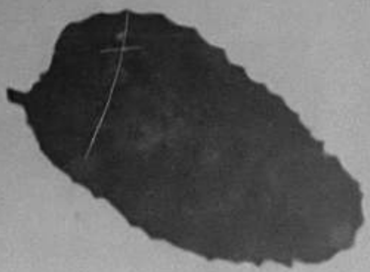
3.

1 and 2. Bananas Usually Served Raw

3. Bananas Usually Served Cooked

Papaya

Pomelo



Guabano

Fruit should be washed or it should be wiped clean with a damp cloth before it is eaten.

Practical Work.—Prepare and serve some fruit in season, such as bananas, pineapples, etc. Make a list of the fresh fruits now offered for sale in the market.

CHAPTER XIX

MEASUREMENTS

Exact measurements are necessary to insure success in cooking. "Successful guesswork in cookery is the result of long experience through many failures." Good cooking is not a matter of luck. A good recipe correctly followed gives successful results. Be careful in all measurements.

All measures are taken level, unless otherwise directed. A cup holding about ¼ liter is the standard measuring cup. It holds 16 tablespoonfuls.

Sift or shake lightly all dry materials before measuring.

To measure a cupful of any dry material, fill a measuring cup (using a spoon to do so) and then level it off with the back of a knife.

A cupful of liquid is all the cup will hold without running over.

To measure a spoonful of any dry material, fill the spoon by dipping it into the material and level it off with a knife. To measure one half of a spoonful, divide the spoonful lengthwise with a knife. Divide a half spoonful crosswise to measure a quarter. A heaping spoonful is twice a level spoonful.

ABBREVIATIONS.—These abbreviations are used in many cookbooks:

ts. for teaspoon.
tbs. for tablespoon.
c. for cup.

TABLE OF MEASUREMENTS.—Verify the table of measurements below, first by using coarse salt as a dry material, and then by using water as a liquid material.

3 ts.=1 tbs.
8 tbs.=½ c.
16 tbs.=1 c.
2 c.=½ liter.

CHAPTER XX

REFRESHING DRINKS

PRACTICAL WORK.—Prepare a refreshing drink of some kind. (See recipes.) Put a small clean doily on a small tray or on a plate. On this place a glass of the prepared drink. Serve to someone designated by the class.

Make cocoa or chocolate. (See recipes.) Cocoa is one of the simplest drinks to make and one of the most nourishing for young people.

TO THE TEACHER.—Teach the girls how to serve refreshing drinks to the sick.

CHAPTER XXI

CANDY

Candy is wholesome when eaten at proper times and in proper quantities. The best time to eat it is just after a meal. Then you are not tempted to eat too much and you are not likely to spoil the appetite for the next meal.

Homemade candy is cheaper and is purer than most of the candy bought at stores. Much of the candy bought at stores is made of impure sugar and of impure flavorings. Sometimes poisonous coloring matter is found in cheap candy. Children should not be allowed to eat candy handled with dirty hands or weighed on dirty scales.

Hard candy should not be broken with the teeth, but should be allowed to melt in the mouth.

Practical Work.—Make candy from materials purchased in the local market. (See recipes.) Estimate the cost of a kilo.

Chapter XXII

RICE

People with whom rice is a staple diet need in addition meat, eggs, vegetables, and fruit. If a person regularly eats polished rice without eating other foods to balance the diet, he will soon develop beriberi and other diseases.

Unpolished rice is brownish and to some persons does not seem so attractive-looking as polished rice, but it is more nutritious and has a finer flavor.

Preparing Rice for the Table.—Sort the rice and wash it carefully. Cook it thoroughly, but do not overcook it. The secret of the proper cooking of rice lies (1) in allowing the right amount of water for boiling, (2) in allowing the right length of time, and (3) in keeping the grains whole.

In cooking rice the proportion of water varies, more water being needed for old rice than for new rice. One cup of rice usually absorbs 2½ cups of water.

Practical Work.—Cook a pot of rice, following the directions above. (See recipes.) Serve the cooked rice to the members of the class.

Cook corn-meal mush. (See recipes.)

REVIEW

1. Name two diseases that a person may have if he regularly eats polished rice without eating other foods to balance the diet.
2. What other foods should be eaten by people with whom rice is a staple diet?
3. Tell how rice should be prepared for the table.
4. The secret of the proper cooking of rice lies in what three things?

To the Teacher.—Show the pupils samples of polished and of unpolished rice.

CHAPTER XXIII

THE GARDEN

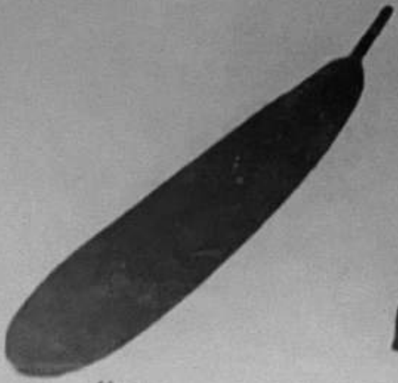
Visit the school garden with the teacher. Learn the names of the vegetables growing there and learn to spell the names. Learn the edible parts of the vegetables.

NAMES OF COMMON VEGETABLES.—The names of some of the vegetables commonly found in school gardens follow:

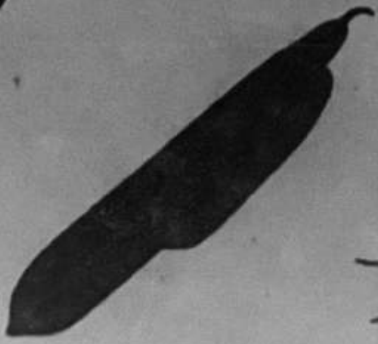
amargosos
beans
beets
cabbage
calabaza
camotes
carrots
corn
cucumbers
eggplant
gabi
lettuce
mongos
mustard
okra
onions
patola
peas
pechay
peppers
radishes
sitao
squash
tomatoes
turnips
ubi

Winged Peas

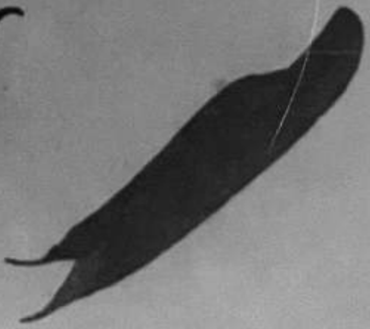
Kentucky Wonder Beans



Upo



Patola



Amargosos

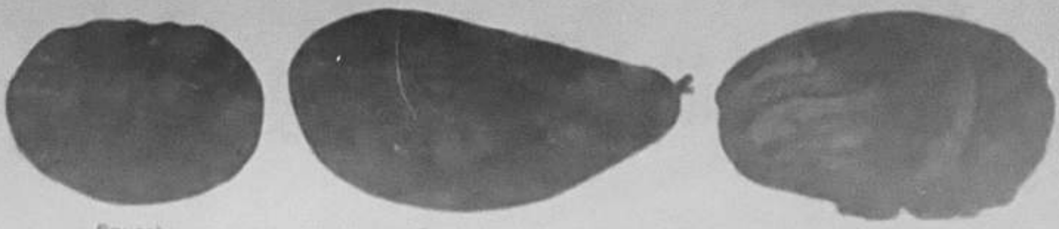
Beans Common in the Philippines

Garlic Tamarinds Carambolas Peppers

Onions
Beets
Carrots
Radishes
Sincamas

Eggplants
Green Corn
Tomatoes

Pechay
Lettuce
Camote Leaves


Squash
Condol
Cabbage

Edible Parts of Vegetables.—Different parts of different vegetables are used for food as this table shows:

Vegetables	Edible Parts
onions, garlic	bulbs
katuray, squash	flowers
eggplant, squash	fruit
lettuce, cabbage	leaves
beets, radishes	roots
beans, corn	seeds

REVIEW

1. Make a table showing the edible parts of all the vegetables grown in your locality.
2. What are the advantages of a home garden?

CHAPTER XXIV

HANDWORK IN THE PREPARATION OF FOOD

The first handwork necessary in the preparation of most foods is to clean them and to separate the edible parts from the inedible parts.

Dirt is removed from roots by washing and by scrubbing.

Insect-eaten parts of leaves are cut off and the leaves are rinsed in several changes of water.

Some of the processes of handwork in the preparation of food are explained below:

Paring.—To pare (to remove the skin from) potatoes, squash, etc., cut between the skin and the substance.

Peeling.—To peel (to remove the skin from) oranges, bananas, scalded tomatoes, etc., break the skin, then take a piece of the broken skin between the knife and the thumb and strip it off.

Scraping.—To scrape (to remove the skin from) radishes, carrots, etc., draw the edge of the blade over the surface, thereby taking off very thin shavings.

Shelling.—To shell peas or beans, press the pod open with the fingers and the thumb; then remove the peas.

Stringing.—To string beans, break off the end of the bean pod and pull off the stringy fiber of the pod.

Husking.—To husk corn, pull off the husk that covers the ear and remove the silky threads underneath.

Slicing.—To slice bread, vegetables, pineapples, etc., cut in thin pieces of uniform size.

Dicing.—To dice, cut slices in strips and then cut the strips in cubes.

Chopping.—Chop meat, fruit, and vegetables in a tray or on a board by up-and-down motions with a broad knife.

Shredding.—To shred coconut, cut or tear it in long narrow strips.

Beating.—Beat by an over-and-over motion of the spoon.

Mixing.—Mix flour and sugar by stirring around and around; mix flour and butter by chopping or by rubbing; mix flour and water by stirring water into the flour slowly and smoothly.

Creaming.—Cream butter and sugar by rubbing until they are thoroughly mixed.

Blending.—Blend by stirring or beating until all materials are as one.

To the Teacher.—Teach these processes by demonstration if possible. Do not require pupils to memorize the definitions, but have them learn to use the terms correctly.

Chapter XXV

COOKING VEGETABLES

Medium-sized vegetables are better for cooking than very large or very small ones. Large ones are sometimes old and tough.

If vegetables wilt before it is possible to cook them, soak them in cold water.

Cook strongly flavored vegetables, such as cabbage and onions, uncovered. Change the water once or twice while they are cooking, using boiling water to replace the water drained off.

Green vegetables retain their color better when they are cooked uncovered.

Practical Work.—Prepare and cook vegetables. See the recipes for the following:

Boiled corn on the cob
Steamed camotes
String beans
Mongos and rice
Succotash
Greens
Stewed dried beans
Mashed eggplant
Stewed tomatoes
Boiled squash
Stuffed peppers
Okra with tomatoes
Boiled radishes
Boiled beets

CHAPTER XXVI

EGGS

PARTS OF AN EGG.—The parts of an egg are the shell, the white, and the yolk (sometimes called the yellow).

A FRESH EGG.—A fresh egg is heavy and has a slightly rough shell. If a fresh egg is dropped in water, it will sink immediately.

WHY EGGS SPOIL.—The shell of an egg is porous. A part of the moisture within the shell evaporates through the pores. Air enters to take the place of the liquid which evaporates and, if this air contains bacteria, the egg becomes stale. Since the shells are not air-tight, eggs should be kept in clean places where the air is pure.

BREAKING AN EGG.—Before breaking an egg wash the shell. Then hold it in the hand and crack it on the edge of the bowl, or hold it in the left hand and crack it by striking it with the blade of a knife; put the thumbs together at the crack and pull the shell apart.

Cracking Egg with a Knife   Pulling the Shell Apart   Separating the White and the Yolk

SEPARATING THE WHITE AND THE YOLK.—After pulling the shell apart, let the white drop into the bowl and let the yolk remain in one half of the shell. Pour the yolk from one half of the shell to the other until all of the white has drained off; then put the yolk in a separate dish.

BEATING EGGS.—Eggs are beaten to get particles of air mixed with the particles of the eggs. Beat them with either a fork, a knife, a spoon, or an egg beater. Beat the whites until they are stiff or until they are dry. Beat the yolks until they are thick and creamy.

PRACTICAL WORK.—Cook eggs. See the recipes for hard-boiled, soft-boiled, and scrambled eggs.

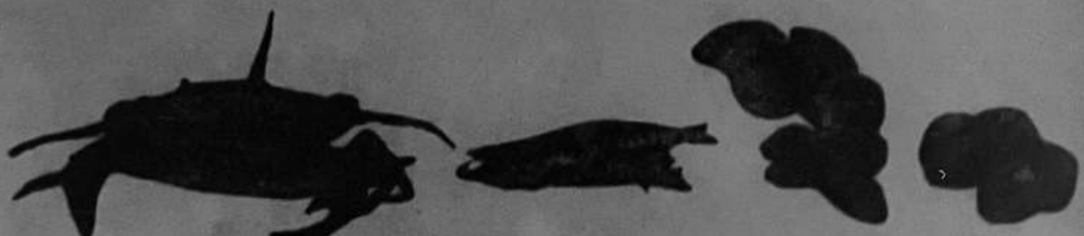
REVIEW

1. Name the parts of an egg.
2. Tell how to test an egg for freshness.
3. Tell how to break an egg.
4. Tell how to separate the yolk and the white.
5. How long should the whites be beaten; the yolks?

CHAPTER XXVII

FISH

The term *fish* when used to express the article of diet generally includes, besides the vertebrates or backboned forms, shellfish which have no backbones. Oysters, clams, mussels, lobsters, shrimps, and crabs are shellfish.



Fish should be eaten as soon as possible after they have been caught. Left-over fish should not be allowed to stand long. Canned fish should be taken out of the can as soon as the can is opened.

A FRESH FISH.—The eyes of a fresh fish are full, clear, and bright; the gills are red; and the flesh is firm. Do not use a fish that does not possess all of these qualities.

CLEANING A FISH.—Remove the scales with a knife. Begin near the tail and work toward the head. Incline the knife a little toward your body to keep from cutting the flesh and to prevent scales from flying in the air.

SKINNING A FISH.—With a sharp knife remove the fins along the back. Cut off a narrow strip of skin the entire length of the back. Loosen the skin on one side. If the fish is fresh, the skin may then be readily drawn off. After skinning one side, turn the fish over and skin the other side.

PREPARATION FOR COOKING.—Fish, after being dressed, should be wiped thoroughly inside and outside with a cloth wrung out of cold salted water. The head and the tail may or may not be removed. Do not salt fish until you are ready to cook it.

Cooking.—Broiling, boiling, and baking are the most wholesome ways of cooking fish. Small fish and pieces of some large fish are good when fried. Oily fish should not be fried.

Practical Work.—Cook fish. (See recipes.)

CHAPTER XXVIII

POULTRY

When selecting a chicken to eat, choose one having soft cartilage at the end of the breastbone. Birds of all kinds are best to eat when young. A smooth skin, soft feet, and an abundance of pinfeathers indicate that a chicken is young and tender.

When selecting a turkey, choose a short plump one with smooth legs and soft gristly cartilage at the end of the breastbone. A turkey cock is better than a turkey hen, unless the latter is small, young, and plump.

Killing and Dressing a Chicken.—The directions for killing and dressing a chicken follow:

1. Give the fowl no food except water for twelve hours before killing it. This makes the removal of the intestines easier.
2. The usual way to kill a chicken is to cut off the head as quickly as possible.
3. After cutting off the head, hang the chicken, neck down, for several minutes so the blood will run out quickly.
4. Pick the chicken before the feathers become set. Be careful not to break the skin. Dry picking should be done before the body is cold. Scalding before picking is preferred by many housekeepers because this kills the insects on the chicken.
5. Remove the pinfeathers with the point of a knife.
6. When all feathers are off, in order to remove hairs singe the fowl by holding it over burning paper. Turn it so as to singe it on all sides, but do not let it stay in the flame long enough to be scorched.
7. Cut off the legs at the knee joints.
8. Turn back the skin of the neck and cut off the neck bone close to the shoulders, after which pull out the windpipe.
9. Make an incision below the breastbone large enough to admit the hand.
10. Insert the hand slowly and firmly between the entrails and the wall of the body. Then draw the entrails and the crop out, being careful not to break the gall bladder.
11. Detach the heart, the liver, and the gizzard from the intestines.

12. Make a cut around the gizzard to the inner lining and remove the inner sack, being careful not to break or cut the walls of this sack.

13. Trim the heart.

14. Remove the gall bladder, taking the discolored part of the liver with it.

15. Cut off the oil bag that lies at the top of the tail.

16. Wash the chicken thoroughly inside and outside. Then dry with a clean cloth.

17. If the chicken is to be cooked whole, it should be trussed as soon as it is cleaned. To truss a chicken, press the legs against the body and fasten them with twine or with skewers. Fasten the wings in like manner. Draw the drumsticks together and tie them.

Cutting up a Chicken.—If the chicken is to be stewed or if it is to be fried, it will be necessary to cut it up. If this is to be done, use directions from 1 to 7, inclusive, under "Killing and Dressing a Chicken," after which proceed as follows:

Remove the oil bag that lies at the top of the tail and take out the crop. Cut off the wings and the legs close to the body; turn the tips of the wings under the first joint. Divide the legs at the joint between the second joint and the drumstick. Put the knife in at the point of the wishbone which lies over the breast. Then slice up toward the neck where the points of the wishbone are joined to the shoulders. Cut down at each side of the neck and take off the bones which look like the wishbone, but which lie in a reverse position. Lay the fowl on the cutting board with the breast up. Cut across the skin a little way from the tail, making a horizontal cut. Be careful not to make the cut deep enough to enter the intestines. Lift and turn the breastbone back until the intestines can be seen. Take out the heart, the gizzard, the liver, and the intestines, being careful not to break the intestines or the gall bladder. Separate the back from the breast and the neck. Divide the back by cutting along the side of the backbone. Separate the breast from the neck. Cut the breast in two pieces lengthwise. Clean the gizzard and the liver. Cut off the tubes of the heart. Wash the giblets (the heart, the liver, and the gizzard) thoroughly. Remove the lungs and the kidneys; throw them away. Rinse each piece and dry it with a clean cloth. Keep the pieces in a cool place until ready to cook.

To *draw* a chicken means to remove the entrails and the other internal organs.

To the Teacher.—Kill a chicken and get it ready to be cooked by a more advanced class in cooking. Follow the directions outlined in this chapter. Have the girls watch your every movement. When you have finished, tell them to do the same thing at home and to report to you for credit for home work.

CHAPTER XXIX

SANDWICHES

A sandwich consists of two thin slices of bread with some kind of filling spread between them. Sandwich bread should be at least twenty-four hours old. The crust may be removed from the slices and the slices may be cut in triangles, in squares, or in rectangles.

The filling may be cold meat or cold fish minced fine and mixed with a little salad dressing; it may be thin slices of cold meat; it may be chopped eggs; or it may be cream cheese and nuts.

Pickles, lime juice, or lemon juice are often used for flavoring chopped fillings.

Jelly, jam, and marmalade make nice sandwiches. Sandwiches are served at picnics, at luncheons, and at teas. To eat a sandwich, hold it in the hand and bite through the three layers.

Practical Work.—Make sandwiches. (See recipes.)

To the Teacher.—Spend the rest of the year preparing and serving simple meals, and reviewing the most important parts of the textual matter.

For further practice in cooking select from this list of recipes those most suited to your locality:

Savory rice
Caramel camote
Tinola
Palitao
Guinatan
Pork with ginger
Cabbage with pork and shrimp
White squash with shrimp
Amargoso
Sitao, pork, and shrimp
Picadillo
Mongo and pork
Bibinca malagkit
Calamay
Tinola upo
Upo with chicken
Apay fritada
Baked beans
Bacho

Other recipes suitable for use in the fifth grade may be added to this list.

PART II

FIFTH-GRADE HYGIENE AND SANITATION

PART II

FIFTH-GRADE HYGIENE AND SANITATION

"Cleanness of body was ever deemed to proceed from a due reverence to God."—Bacon.

CHAPTER I

HEALTH OF THE SKIN

The Skin.—The skin is a soft protective covering for the body and consists of two layers. The outer layer is called the *scarfskin* and the inner layer, the *inner skin.*

The scarfskin is without nerves or blood vessels. A pin can be run through it without causing it to bleed. It is the scarfskin that puffs up when we have a blister caused by rubbing or by burning. On rubbing against clothing or against things the body touches, the scarfskin wears off in small scales, but does not become thinner because it is constantly being fed by the blood beneath.

The inner skin is supplied with a network of nerves, sweat glands, and blood vessels.

Sweat Glands.—Each sweat gland is a tiny little tube running through both layers of the skin and opening on the surface of the scarfskin. Each pore of the skin is the mouth of one of these glands.

Perspiration.—All day and all night the skin is at work helping to purify the blood by sending out through its pores perspiration or sweat. Perspiration is something besides water; it contains many impurities which would be of harm to the body. We are told that half the waste of the body passes through the pores of the skin.

Examine the skin with a magnifying glass which will help you see the pores.

A Kind of Strainer.—Think of the skin with its pores as a kind of strainer through which passes a mixture of water and waste from the body. The water soon evaporates and leaves the waste matter on the skin. This waste mixes with oil from the oil glands, with bits of scarfskin, with dust from our clothes and from the air, and forms on the surface of the body a coating which produces a disagreeable odor. If this coating is not washed or rubbed off, it grows thicker each day—the thicker it becomes, the less the amount of perspiration able to get through the sweat glands to cool the skin and to regulate the temperature of the body.

When the temperature of the body cannot be regulated by the sweat glands, the health suffers. When perspiration is checked, some other part of the body must get rid of the waste that should be disposed of by the sweat glands.

Avoiding Colds.—One should avoid cooling off too quickly when hot, because this suddenly closes the pores of the skin and checks perspiration, thus causing what is known as a cold.

Bathing.—If you do not bathe often, the pores become clogged with the mixture of waste from the body, with powdery bits of scarfskin, with oil from the oil glands, and with dust. To keep the skin in good condition, a healthy person should bathe once a day—before breakfast if possible—in cold or in tepid water. If, for any reason, you cannot take a daily bath, do not fail to wash your face and your hands, after which rub the body first with a damp towel and then briskly with a dry one.

Cold water does not clean the body very readily. For this reason a warm bath once or twice a week helps to keep the skin clean.

How to Bathe.—Supply yourself with warm water, cold water, soap, a washcloth, and a towel. With the warm water and the soap, wash the body thoroughly, after which wash lightly with cold water, and rub yourself down vigorously with a coarse towel. When the bath is finished, wash the cloth and hang it in the sun to dry. The towel should also be washed after each bath and hung where it will dry. Do not use someone else's washcloth or towel and do not let anyone else use yours.

After a warm bath the body is washed lightly with cold water to avoid taking cold. If a warm bath is taken just before going to bed, the use of cold water is not necessary.

A bath should not be taken just after eating, but should be taken before breakfast, before lunch, or before dinner, or just before going to bed.

Keeping the skin clean often prevents disease germs from thriving on the body. If itch (sarna) appears on the hands or on any other part of the body, try to cure it at once.

Treatment of Itch (Sarna).—Just before going to bed, wash the inflamed parts with pure mild soap and warm water, after which apply a weak solution of carbolic acid or a saturated solution of salicylic acid. Let this be followed by a thorough greasing with sulphur ointment. The drugs mentioned may be procured at any drug store.

REVIEW

1. Name the two layers of the skin.
2. How do you know the scarfskin is without blood vessels?
3. What passes through the pores of the skin?
4. What effect does perspiration produce on air and on clothing?
5. Why do we bathe? When should we bathe?
6. Is it pleasant to sit near a pupil who does not bathe frequently?
7. Tell how to take a bath.
8. Why should a warm bath be followed by a light washing with cold water?
9. Why should you use *your* washcloth and *your* towel and not those of some one else?
10. Use each of these words in a sentence:

puff
blister
sweat
bath
perspiration
layer
gland
bathe
clogged
scales
briskly
pores

CHAPTER II

CARE OF THE NAILS

"Clean hands and clean finger nails are factors in success."

Finger nails and toenails are a part of the skin and protect the ends of the fingers and the ends of the toes.

WELL-KEPT NAILS.—Finger nails should be trimmed to a curve so as to follow the general outline of the end of the finger. Well-kept nails are oval at the roots and are oval at the ends; the white crescents at the roots can be seen easily; and no dirt can be found under the nails. A little care each day will keep the nails in good shape.

CLEANING THE NAILS.—Nails really need to be cleaned as often as the hands are washed because black rims under them furnish good hiding places for disease germs. Scrub the nails with soap and warm water. Remove the dirt from under them with a dull nailcleaner. Trim or file the edges to a curve.

Biting the finger nails is a bad habit which should be broken.

REVIEW

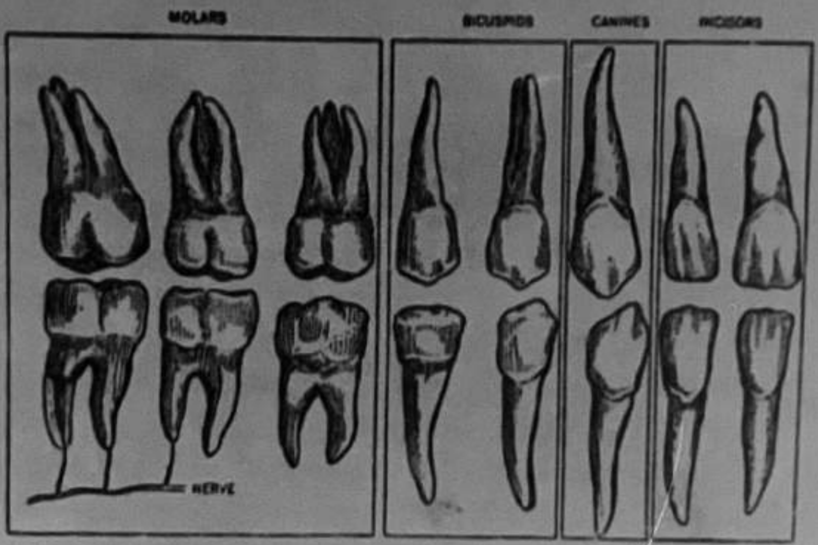
1. Describe well-cared-for finger nails.
2. Examine your nails and decide whether they are well kept.
3. Tell, step by step, what to do to put finger nails in good condition.
4. Is the habit of biting finger nails a good one?
5. Do you bite your nails?
6. Are your nails too long?
7. Why is a black rim under the nail dangerous?
8. Clean your nails according to the directions given above.

CHAPTER III

THE TEETH

TWO SETS OF TEETH.—The normal six-year-old child should have twenty teeth—ten in the upper jaw and ten in the lower jaw. These are the milk teeth. Soon after the sixth year, the milk teeth loosen and come out one by one to make room for the permanent teeth. An adult should have thirty-two permanent teeth, four of which—the wisdom teeth—do not appear until some time between the fifteenth and the twenty-fifth years.

SHAPES AND KINDS OF TEETH.—The front and the back teeth are shaped differently because they have different work to do. The four front teeth in each jaw are used for biting or cutting and are therefore flat and thin. They are called the *incisors*. Next to the incisors are the *cuspids*—one on each side. They are pointed like the tooth of a dog and are thus sometimes called the canines. Just back of the cuspids are the *bicuspids*, or double-pointed teeth—two on each side. Behind the bicuspids are the *molars*—three on each side in the jaw of an adult and two on each side in the jaw of a boy or girl under fifteen. The molars are used for grinding the food and are therefore large, broad, and ridged.



One Half of the Permanent Teeth
(Adapted from Ritchie-Purcell's *Hygiene and Sanitation*)

It will be seen from the above that in each jaw of the adult are four incisors, two cuspids, four bicuspids, and six molars, making sixteen in one jaw or thirty-two in both jaws.

Care of the Teeth a Matter of Habit.—Good care of the teeth is a matter of habit and the sooner the habit is formed, the better. It is never too late to start. Neglected teeth furnish good lodging places for disease germs. Proper care demands that they be kept as clean as possible and that they be examined by a dentist at least once every six months.

Cleaning the Teeth.—After each meal, remove in private all bits of food from between the teeth with dental floss. If that can not be obtained use a silk thread, a rubber band, or a toothpick of soft wood. Care is necessary to avoid injury to the gums. If the teeth can not be brushed after each meal, they should be brushed every morning and every night with a toothbrush that you are sure no one else ever uses. If you have no tooth powder or tooth paste, 1 teaspoon of clean salt in a glass of water is an excellent substitute. Brush the teeth both crosswise and up and down, and clean them carefully on all sides. For washing the teeth, use water pure enough to drink.

The tooth brush should be washed after being used and should be hung in an airy place where it cannot become musty. When buying a toothbrush, select one with medium rather than hard bristles. Hard or stiff bristles are liable to cut the gums.

Watch the Enamel.—The enamel covering the crown of the tooth is so hard that it is brittle like glass. If this enamel is once chipped or broken off, it is never replaced and, if you do not visit a dentist, the tooth begins to decay. Biting hard things like nuts, biting thread, opening a knife blade with the teeth, and similar habits should be avoided because they may injure the enamel.

Tartar is a dark substance that sometimes forms a crust on the teeth. If left on the teeth for any length of time, it injures the enamel and the gums. It can be removed by a dentist. If tartar forms rapidly, it indicates indigestion, and a doctor should be consulted.

Care of the Milk Teeth.—The spaces between milk teeth should be cleaned after each meal and the teeth should be brushed daily with a soft brush and pure water. The decay of milk teeth tends to weaken and to deform the permanent teeth. If a dark spot or if a decayed place is seen on the milk teeth, the child should be taken to a dentist.

Mouth Breathers.—Children who have crooked jaws and irregular teeth are usually mouth breathers and should be taken to a good doctor for examination.

REVIEW

1. What name is given the first set of teeth?
2. What becomes of these soon after a child reaches six years of age?
3. At what age do the wisdom teeth appear?
4. How many teeth should an adult have?
5. What are the thin, flat, front teeth called?
6. What name is given the large ridged back teeth used for grinding?
7. What does the word bicuspid mean?
8. Where are the cuspids?
9. Why are the cuspids sometimes called the canines?
10. What should we do to preserve the teeth?
11. How often should the teeth be brushed?
12. How should the brush be moved when the teeth are being cleaned?
13. What kind of toothbrush should you buy?
14. What is tartar?
15. Why should tartar be removed?
16. What care should be given milk teeth?
17. In what proportion should salt and water be used as a tooth wash?

CHAPTER IV

CARE OF THE HAIR

The hair and the scalp should be kept clean by daily brushing and by frequent washing.

DANDRUFF.—Dandruff is the scurf that forms on the head and comes off in powdery scales or particles. It is injurious to the hair. Its appearance can be prevented by the use of a stiff brush every night and every morning and by frequent washing of the scalp with good soap and water.

THE BRUSH AND THE COMB.—Every person should use his own brush and comb. The bristles of the brush should be stiff. However, a person with a tender scalp may find it necessary to use a brush with soft bristles. The teeth of the comb, should be blunt and far apart because sharp teeth scratch the scalp and fine teeth pull the hair. The brush and the comb should be cleaned often. The brush may be washed with water containing ammonia and dried in the sun (with the bristles down to keep the water from softening the glue which holds the bristles in the brush).

WASHING THE HAIR.—The hair should be washed often enough to keep the scalp clean and free of dandruff. Two or three times a month is usually sufficient unless one is working in a dirty or in a smoky place. Although oil glands in the scalp usually secrete enough natural oil to keep the hair soft and glossy, a large number of Filipinos use coconut oil as a hair-dressing. When this is done, the hair should be washed frequently with hot water and soap to remove the coconut oil before it becomes sour, rancid, and offensive.

Girls should wash their hair only when they have time to dry and to arrange it properly before appearing on the street or going to school. Well-washed hair is light, fluffy, clean, and sweet-smelling, but unwashed hair is oily, heavy, unclean, and offensive.

LICE.—Any one of the four methods below may be used for the extermination of lice.

1. Before going to bed, apply to the scalp blue ointment (pomada mercurial) with the tips of the fingers, after which wrap a towel around the head. On rising the next morning, wash the scalp well with gogo or with soap and warm water. Blue ointment will not injure the hair, but one should be careful not to get it in the eyes.

2. Just before going to bed, comb the hair with a fine-toothed comb. Moisten the tips of the fingers with kerosene and rub well into every part of the scalp. Then wet the palms with oil and rub through the hair. Sleep with a towel around the head and, on rising the next morning, give the scalp and the hair a thorough washing with an abundance of warm water and gogo or soap. Rinse well. Repeat this treatment several times. Use lemon juice or vinegar to dissolve the gluey substance that holds the nits to the hair. Kerosene is good for the hair. It cleans it, loosens the tangles, and makes it glossy.

3. Comb the hair with a fine-toothed comb. Saturate the hair and the scalp with nipa alcohol (*aguardiente*) after which keep a towel wrapped around the head three hours to prevent rapid evaporation. Fumes from the nipa alcohol kill both the lice and the nits.

4. Oil of bergamot or tincture of larkspur may also be used to kill lice.

REVIEW

1. What is dandruff?
2. What daily care should be given the hair?
3. Compare well-washed hair with unwashed hair.
4. Give directions for cleaning a brush.
5. Why should the teeth of a comb be far apart? Why should they be blunt?
6. How should you clean a comb?
7. Why should you use your own comb?

CHAPTER V

FEET, SHOES, AND STOCKINGS

FEET.—Bathing the feet every day helps to make them more comfortable. When the feet are tired, they should be bathed in hot water. The nails should be cut straight to keep the corners from growing into the flesh.

SHOES.—Shoes protect the feet from dirt, burrowing insects, cuts, bruises, and diseases. Chinelas also protect the feet, but give the wearer a shuffling walk.

Great care should be taken to see that shoes and stockings fit the feet. When a new shoe is first put on, it should be longer than the foot by 1 to 1½ centimeters. With use, the foot will work forward and occupy the extra space. If properly selected, a new shoe will be comfortable. A tight shoe hinders the circulation of the blood.

The sole should be thick enough to be firm, but not so thick that it cannot be easily bent.

Heels should be broad and low or of medium height. Very high heels strain and weaken the arch of the foot; they throw the weight forward on the toes which are thus crowded into the ends of the shoes, causing corns, bunions, and deformed toes. No one can walk easily and naturally in high-heeled shoes.

Glazed leather (patent leather) is hot and does not allow perspiration to evaporate so freely as unglazed leather. Tan shoes are cooler than black ones, and white shoes are cooler than tan ones.

STOCKINGS.—Stockings are worn for cleanliness and to prevent chafing of the feet. They should not be worn with holes in them, but should be darned when necessary.

As shoes do not permit free evaporation of perspiration, the perspiration accumulates on the feet and on the stockings and produces an offensive odor if the stockings are not changed at least once a day.

When washing stockings, use plenty of soap and water; rinse them thoroughly. They do not need to be ironed, but should be dried well. They wear better if frequently washed because soiled stockings are subject to bacterial action which weakens the thread.

Stockings should not be held up by tight garters around the legs, but by supporters fastened at the waist.

REVIEW

1. Why should a person wear shoes?
2. How may ingrowing nails be prevented?
3. How much longer than the foot should a new shoe be? Why?
4. Why are high heels injurious?
5. Why are shoes of patent leather objectionable?
6. Why are stockings worn?
7. Why should the stockings be changed often?
8. What kind of stocking supporters are best?

CHAPTER VI

THE EYES

NATURAL PROTECTION FOR THE EYES.—The eyes rest in deep, bony sockets; they receive additional protection from the nose, the eyelids, the eyelashes, and the eyebrows. The presence of the nose and bones around the eyes makes it difficult for anything to strike them. The eyelids are able to close instantly and shut out foreign bodies about to enter the eye. The eyelashes guard the eyes against dust and strong light. The eyebrows keep perspiration from the forehead out of the eyes.

MUSCLES OF THE EYE.—The motion of each eye is controlled by six muscles, which turn the eye in the direction we wish. When some of these muscles are shorter than others, the eyes are crossed—a condition that may be corrected by a skillful surgeon.

NEARSIGHTEDNESS AND FARSIGHTEDNESS.—To a nearsighted person, images of near objects are distinct, but images of distant objects are obscure and indistinct. To farsighted persons, images of distant objects are clearly outlined, but images of near objects are blurred. These defects can be corrected by wearing well-fitted glasses.

LIGHT.—It is injurious to the eyes to use a poor light or to face a window or a lamp while reading or while working. The light should be strong and, when reading or sewing, it may fall on the page or on the work from over the right or the left shoulder. When writing, however, the light should come over the left shoulder to avoid the shadow cast by the hand.

When intrusted with the care of a baby, do not permit him to gaze at a bright sky, at a bright window, or at a lighted lamp.

SORE EYES.—Sore eyes should receive prompt medical attention. If you have sore eyes, keep the hands away from them. If you happen to touch them, wash the hands thoroughly before touching anything others might handle. If you do not have sore eyes, be careful not to touch anything touched by a person who does have sore eyes. If you touch anything touched by someone suffering with sore eyes, wash your hands thoroughly before putting them near your eyes.

CARE OF THE EYES.—The proper care of the eyes demands strict obedience to these rules:

While reading or while sewing, sit in an upright position.

Keep your eyes at least 25 centimeters from your work.

Do not read very fine print.

Do not work in a poor light.

At school if you cannot see your work well, tell your teacher.

Do not read while lying down.

Do not read in the twilight without a good artificial light.

Do not read when the eyes feel tired.

Do not face the light while reading or while working.

When your eyes have become tired from reading or from sewing rest them by looking at distant objects.

REVIEW

1. Name five things that furnish natural protection to the eyes.
2. What precautions should you take if you have sore eyes?
3. What precautions should be taken to avoid having sore eyes?

CHAPTER VII

HEARING AND LISTENING

CARE OF THE EARS.—If your hearing is perfect, the best way to take care of the ears is to leave them alone. If the ear is healthy, one should not be conscious of the presence of wax. Digging into the ear with the finger or with anything else is a bad practice. The ears must of course be washed to keep them clean, but in washing them do not touch the delicate canal leading to the drum. A blow on the side or on the back of the head may injure the hearing. Children who do not hear well usually have nose or throat trouble. If you have earache or if you do not hear well, have your ears examined by a good doctor.

LEARN TO LISTEN.—You should train your ears to listen. Many boys and girls who think that they are listening hear just a part of what is said, and then guess at the rest or ask to have it repeated. We should try to hear exactly what is said; and if we listen carefully, it will soon be much easier to understand at once. Careful listening may some time protect you from danger or save you from much unhappiness.

REVIEW

1. Explain the proverb, "Hear much and say little."
2. Do you know of any business or of any occupation in which a keen sense of hearing is necessary?
3. Do you know any child who is totally deaf?
4. Do you know any child who does not hear well?
5. If you are sitting nearer the teacher than a child who does not hear well, what is the unselfish thing for you to do?

CHAPTER VIII

THE NOSE

The nose is a part of the respiratory (breathing) apparatus. The two openings in the nose through which the air passes to the lungs are the *nostrils*. The inside walls of the nose are covered with fine hairs which strain most of the dust from the air we breathe. Among the hairs are glands which secrete a slippery white substance called *mucus*, which moistens the walls and catches dust that the hairs fail to stop. When one has a cold, secretion of mucus may be so greatly increased that it forms an obstruction to the passage of air, in which case it becomes necessary to breathe through the mouth.

BREATHE THROUGH THE NOSE.—One should breathe through the nose (1) because the nose warms the air to body temperature, (2) because the nose moistens the air before it reaches the lungs, and (3) because the nose strains the dust and germs from the air. None of these functions can be performed by the mouth and thus mouth breathing is dangerous.

ADENOIDS.—Sometimes nose breathing is made almost impossible because of the presence of growths in the nasal passages. If a child breathes through his mouth, one may be certain he has in his nasal passages adenoids or some other obstruction which should be removed by a good surgeon before the child's health is injured.

AVOIDING COLDS.—As a cold often forces one to breathe through the mouth and as mouth breathing is unsafe, the following precautions should be taken to avoid colds:

Keep the body clean inside and outside. Eat regularly. Sleep with the windows open. Work and play every day. Do not breathe the foul air of overcrowded and poorly ventilated rooms. After exercising, change damp, sweaty clothing for dry clothing. As a cold is a germ disease, the breath of anyone having a cold should be avoided. If you have a cold, avoid giving it to others by keeping the mouth covered with a handkerchief when coughing or when sneezing.

REVIEW

1. Give three reasons why one should breathe through the nose.
2. What precautions should be taken to prevent catching colds?
3. What should be done to avoid taking a cold from another person?
4. What should be done to avoid giving a cold to another person?
5. What should be done if a child has adenoids?

CHAPTER IX

THE LUNGS AND PURE AIR

WHAT THE LUNGS ARE AND WHAT THEY DO.—The two lungs are the special organs of respiration and occupy the upper part of the body cavity. They resemble two large sponges and are full of numberless little blood vessels and millions of air sacs. When the chest expands, air enters the lungs through the nose and the windpipe and fills the air sacs. In these sacs the blood meets the air and exchanges the poisonous impurities it has collected from the body for the life-giving oxygen that the air contains. The blood carries the oxygen thus obtained to all parts of the body where it unites with the food to build up body tissues. The poisons deposited by the blood in the sacs are expelled from the lungs when the chest contracts.

DEEP BREATHING.—To develop the lungs and to keep all of the air sacs open, the following deep-breathing exercise to be repeated several times in succession each day is recommended:

Stand erect, fill the lungs with air, and then slowly breathe it out. This increases the number of heartbeats and causes the blood to flow more freely through the body. It brings more air into the lungs and thus enables the lungs to get rid of more waste. Physical exercises will do the same thing. Tight clothing causes shallow breathing and, therefore, should not be worn.

THE LUNGS NEED PURE AIR.—As we breathe into the lungs whatever air is about us, we should be sure it is fresh and clean. Tuberculosis results from the constant breathing of foul and unclean air. Fresh air can always be obtained by proper house ventilation and by the elimination of everything inside and outside of the house that produces an unpleasant odor.

VENTILATION.—Proper house ventilation requires that the windows be kept wide open day and night. As it is always warm in the Philippines, this can be done without discomfort. As you have learned that the air expelled from the lungs is filled with poisonous impurities from the body, you can readily see that no air should be breathed twice. A constant supply of fresh air is necessary, especially if several persons are crowded together in a small room. If you breathe for any length of time the air that has been breathed by someone else, you will become dull and stupid and will soon have a headache.

SOURCES OF IMPURE AIR.—Dirty walls, dirty ceilings, dirty floors, dirty beds, dirty clothing, and garbage make the air in the house impure. The presence of uncared-for places where horses, carabaos, pigs, goats, or chickens are kept, the presence of improperly drained yards, the accumulation of waste, and the presence of insanitary privies destroy the purity of the air outside.

MAKING THE AIR PURE.—Much can be done to make the air pure in and around the home if all members of the family cooperate in carrying out the following suggestions:

Keep the windows wide open day and night.

Do not work or sleep in crowded rooms.

Keep your body clean and thus do away with unpleasant odors.

Wash soiled clothing at least once a week. To store soiled clothing for a longer period is insanitary.

Air the beds every day.

Dispose of all garbage as quickly as possible.

Clean the stalls of domestic animals at least once every day. Under no circumstances should domestic animals be kept under the house.

See that the yard is properly drained, so that all water will flow off after a rain.

Sprinkle lime on the ground under the house, especially in damp weather.

Do not allow smoke and gases from fires to blow through the house. Have them conducted outside by means of some sort of flue.

Let an abundance of sunshine into the house to kill germs and to purify the air.

Keep the house as free of dust as possible. If grass is grown in the front yard and if a garden is grown in the back yard, the amount of dust in and round the house may be greatly lessened.

Do not let waste from the body accumulate in or near the house. Diseases arising from human excreta are among the worst enemies to health and to life. Privies should not be too near the house and should be built so the waste can be covered with dry earth, with lime, or with ashes.

EFFECT OF DUST ON THE LUNGS.—Many of the little particles of dust which we breathe have sharp edges and sharp corners that scratch the delicate lining of the lungs, just as larger particles irritate the membrane of the eye when they come in contact with it. If much dust gets into the lungs, the irritation causes coughing. If it continues day after day, tuberculosis may result because the irritated spots furnish good lodging places for the tuberculosis germs carried into the lungs with the dust. Persons who work where there is much dust of any kind are especially susceptible to tuberculosis.

HOW GERMS ARE SCATTERED.—Germs get in the air from rooms of the sick, from soiled clothes, from human waste, from rubbish, from dead animals, and from other sources. Tuberculosis germs are most numerous in the saliva of persons having that disease. When a person having tuberculosis spits on the street, the water in the sputum soon evaporates and leaves the germs, which can be raised to the nostrils by a light breeze or by a passing vehicle. If they are breathed by a person with weak lungs, tuberculosis may result.

The habit of spitting out of windows and on walks is dangerous and insanitary. Cities of the United States have passed laws against spitting on walks and in public buildings.

REVIEW

1. What and where are the lungs?
2. What work do they do?
3. Why is deep breathing important?
4. What does proper ventilation require?
5. Why should we not breathe the same air twice?
6. Name some of the sources of impure air in the house.
7. Name some of the things that destroy the purity of the air outside of the house.
8. Name some of the things that can be done to make the air pure.
9. What is the effect of dust on the lungs?
10. How are germs scattered?
11. Why is spitting on the street and in public buildings dangerous?

CHAPTER X

WATER

Water is essential to the life of animals and of plants. About 65 per cent of the human body is water. The body craves water more than it craves food. A person can live for weeks without food, but only a few days without water.

Most people do not drink enough water. Eight or ten glasses a day are not too much. Drinking water improves the health and the looks, it may be drunk before breakfast, at meals, between meals, and in the evening.

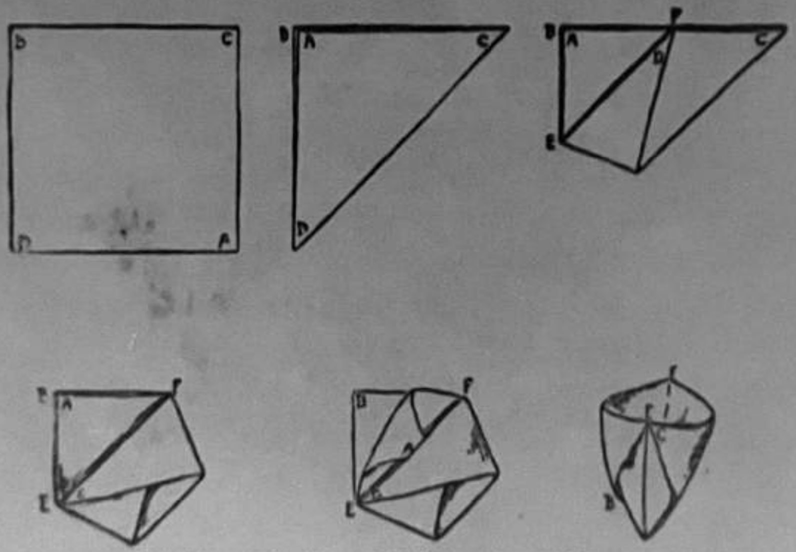
PURE WATER.—Drink only water that you know to be pure. Pure water is the finest drink in the world. In the Philippines water that comes from an artesian well, distilled water, and clean rain water are safe, but all other water is unsafe until boiled. Artesian water is not safe if it is carried from the well to the house in unclean jars or cans.

HOW TO BOIL WATER.—If the water is muddy, let it settle, and pour off the clear water through a clean white cloth into a clean kettle with a close cover. Then place the kettle over a charcoal fire. Remember that the water does not boil until it bubbles and jumps about. To kill the germs, the boiling must continue fully twenty minutes after bubbles are first formed. The boiled water should be kept in a covered jar (preferably one with a faucet) which has been rinsed in boiled water. Do not think you have to drink the water while it is hot; let it cool, but do not leave the jar uncovered. If the jar has no faucet, do not let anyone put his hands into the water when he dips it out. Use a dipper, not a drinking cup, to dip the water.

AËRATING BOILED WATER.—Fresh water contains air, which gives it a pleasant taste. Boiled water tastes flat because in boiling the air is driven out. It may be aërated by pouring it into the jar from the kettle held at some height.

COLLECTING RAIN WATER.—Rain water may be caught practically pure from a roof or from a similar surface if the first water is allowed to waste until the roof is washed off. Vessels in which rain water is stored should be tightly covered and should be thoroughly cleaned at least once a month.

A SANITARY DRINKING CUP.—A common drinking cup is an unsafe thing to use because it may be contaminated with dangerous disease germs. Every school pupil should have an individual cup which no one else uses. Metal folding cups can be bought at reasonable prices. A sanitary cup can be easily made of clean white paper as shown in the illustration.



Making a Sanitary Drinking Cup of Paper

IMPURE WATER.—Germs of intestinal diseases, such as cholera, diarrhea, dysentery, and typhoid fever, are carried in impure water. Water may contain impurities that come from decaying vegetable or animal matter.

It is a great mistake to think that water taken from any well is good to drink. Germs and filth may be washed into shallow wells from stables, from privies, and from other filthy places. Dirty water thrown on the ground near the well may soak into the ground and run into the well. If artesian wells are properly protected from insects and from animals, the water from them is pure because the many layers of soil through which it has filtered have taken out the impurities.

River water should never be used for drinking unless it is boiled. People bathe in rivers and wash clothes along the banks. Animals walk, swim, and wallow in streams. Often body wastes, dead animals, and other refuse are thrown into the water. It is not surprising, therefore, that river water should contain many impurities and the germs of many diseases.

REVIEW

1. What percentage of the human body is water?
2. How much water should a person drink each day?
3. Describe pure water.
4. Name two sources of pure water in the Philippines.
5. How can impure water be made safe for drinking?
6. Tell how to boil water.
7. Why should drinking water be kept in a covered jar?
8. Tell how to aërate boiled water.
9. Make a sanitary drinking cup out of clean paper.
10. Why is impure water dangerous?
11. How may water in a shallow well become dirty?
12. Why is river water impure?
13. Why is water from an artesian well pure?

CHAPTER XI

KEEPING THE FOOD CLEAN

The eating of unclean food causes as many diseases as the drinking of impure water. Food should be clean not only in appearance, but clean with respect to germs. Every housekeeper should consider carefully the subject of clean food and clean kitchens.

One of the first qualities of attractiveness of food is cleanliness. The dining room should be the most pleasant and the most inviting place in the house. A dirty table, with flies swarming over the food, is not tempting.

If the table and the food should be clean and inviting, do you not think that you should make yourself as neat and as clean as possible before you come to the table? Dirt on your hands and face does not look well and the dirt contains many germs that may get into your food and thus find their way into your body and make you ill.

Individuals can do very little toward keeping disease germs out of food while it is in the market. This is usually done by government health officers. However, after food is bought, it is the housekeeper's duty to see that it is kept free from contamination both before and after it is cooked.

All decaying or rotting of fruits and of vegetables is due to the action of germs. Vegetables and fruits that are partly decayed should not be eaten. Even if an orange or a banana is decayed only on one side, the products of decay may have extended all through the fruit. You cannot see them, but nevertheless they are there. It is the same with a decaying papaya, a decaying mango, or a decaying potato.

Meats and fish decay or rot as do fruits and vegetables, and the rotting is due to the presence of bacteria. When bacteria are allowed to grow in meat or in fish, as always happens when they are not kept in a very cold place, these bacteria cause ptomaines. People who eat such meat or fish become sick and sometimes die.

It is dangerous to leave foods uncovered because they will collect dust which may contain many kinds of germs. Also, flies which have been feeding on garbage, on human excreta, or on tubercular sputum may crawl over uncovered foods. If, with the aid of a microscope, you examine a fly you will see that his feet and his legs are covered with hairs which gather up germs from the filthy things on which he walks.

Probably the commonest source of germs on food is the fly. Flies are known to be carriers of the germs of cholera, of smallpox, of typhoid fever, of tuberculosis, and of other dangerous diseases. They should therefore be kept out of the house. As the eggs of the commonest species are usually laid in stable manure, this refuse should be taken away as soon as possible after being deposited and should be scattered in the sun where it will dry, after which the eggs cannot hatch.

You cannot get rid of flies entirely, but if you do away with manure piles, if you keep all food and all garbage cans covered, and if you keep your yards free of everything that rots, you will have very few flies about the house. The few flies you do have, after taking these precautions, can be caught with fly paper or with some sort of flytrap.

The little lizards found in Philippine houses help to rid the houses of flies and of many other insects.

REVIEW

1. Why should food be clean?
2. What can be done to keep dust, germs, and flies out of food?
3. Why is it dangerous to leave food uncovered?
4. What is probably the commonest source of germs on food?
5. What diseases are flies known to carry?
6. Where does the fly usually lay its eggs?
7. What can be done to keep flies away from the house?

CHAPTER XII

RULES FOR EATING

Eat clean food with clean hands in clean places.

"Do not eat when you are angry or when you are sad; eat only when you are glad." Indigestion often results if one eats when very angry or when in great grief.

Eat slowly and chew the food well. How you chew is as important as what you chew. It is not the amount eaten, but the amount digested that nourishes the body.

Do not overeat. A person who eats too much usually eats too fast.

Do not eat when very tired. Rest, if only for ten minutes, before eating a full meal.

Eat at regular intervals. Do not eat between meals, but let the stomach have a chance to rest when its work is done.

Do not buy uncovered food from street venders.

CHAPTER XIII

SLEEP

> "Sleep is the golden chain that links health and our bodies together."
> —Dekker.

Before studying this chapter, answers to the following questions should be written out in full and should be submitted to the teacher for discussion in class:

At what time do you usually go to bed?

How many times a week do you go to bed later than this? How much later?

At what hour in the morning do you usually awake? Does someone wake you?

How many persons sleep in the room with you?

How many windows are in the room in which you sleep and how many windows were open last night?

Have you regular work outside of school? If so, how much of your time does it take?

WHEN AND HOW LONG TO SLEEP.—Night is the best time to sleep because it is then dark, quiet, and cool. Everyone should have a regular time to go to bed and a regular time to get up. Young persons require more sleep than older ones. The ordinary requirement for children is from ten to eleven hours out of each twenty-four hours; for adults from eight to nine hours out of each twenty-four. If sleep is lost, it should be made up as soon as possible. One should feel perfectly rested on waking. Too much sleep causes a dull feeling. Small children should sleep during the heat of the day.

COMFORT NECESSARY.—Sleep interrupted by discomforts, by noise, by light, by insects, etc., is not refreshing. A comfortable bed is more conducive to rest than a mat on a hard floor. A pillow may be used, but it should be small because a large pillow raises the head too high, thus hindering free circulation of the blood. A mosquito net not only gives great comfort, but lessens the chance of getting malaria. Complete rest comes only when you sleep with the body straight or nearly straight. If bedclothes are not aired every morning, they soon collect bad odors and become unpleasant. No one can sleep well in a bed that is not clean.

GETTING READY FOR BED.—Clothes worn during the day should never be worn in bed. The little pores all over the skin have been giving out perspiration all day, and a great deal has been caught by the clothes, just as it is caught by the bedclothes while we sleep. It is a good thing to take off the clothes to air and cool the skin. Do not leave the clothes in a heap on the floor, but hang them up so that the air can blow through them all night to sweeten, to clean, and to dry them.

After undressing for bed, wash the face, the neck, and the hands, or take a quick bath or a dry rub. This will clear away everything the perspiration has left on the skin during the day, as well as any dust or dirt that may be on it.

Before you put on your night clothes, give your hair a thorough brushing. Dust, smoke, soot, and germs have been blowing into your hair all day, and a good brushing will not only remove them before they settle on the scalp, but will keep the hair healthy. After brushing the hair, brush the teeth until they are perfectly clean.

Before going to bed, be sure that the windows are open. If you do not breathe fresh air while you sleep, you will feel dull and stupid in the morning and perhaps you will have a headache.

Use enough covering to keep warm in cool weather, but do not sleep with your head under the cover.

REVIEW

1. Why is sleep necessary?
2. Why is night the best time to sleep?
3. How many hours of sleep a day are required for adults; for children?
4. How many hours of sleep do you have a day?
5. How should one feel after having had the right amount of sleep?
6. Why should the pillow be small?

7. Why should one sleep under a mosquito net?
8. What position should the body take in order to have complete rest?
9. Why should bedclothes be aired every day?
10. When you undress, what should you do with your clothes?
11. What care should be taken of the hair at night?
12. Why should one brush the teeth before going to bed?
13. Why should bedroom windows be open at night?

CHAPTER XIV

HYGIENIC SUGGESTIONS

"Talk health; this never ending tale
Of mortal malady is worn and stale.
You cannot charm or interest or please
By harping on that minor chord, disease.
'Whatever the weather may be,' says he,
'Whatever the weather may be,
It's the songs ye sing and the smile ye wear
That's making the sunshine everywhere.'"

Do not put money, pencils, pins, needles, or thread in the mouth.

Do not wet the fingers with the tongue to turn the leaves of books.

Cover the mouth with a handkerchief when coughing; cover the nose when sneezing.

Turn the face away from others when sneezing or when coughing.

Go to bed early, rise early, and take plenty of exercise.

Do not spit on any floor or on any walk.

Breathe through the nose. A mouth breather is subject to frequent colds and his lungs soon become diseased.

Sit, stand, and walk with the body erect.

Do not carry a handkerchief in the hand; do not leave it on a desk or on a chair; carry it in a pocket or in a bag.

Do not use a towel used by others.

Use individual towels, individual bedding, individual combs, individual toothbrushes, individual clothing, and individual soap.

Do not use a public drinking cup.

Wash all newly-bought underclothing before wearing.

If possible avoid handling books that have been badly soiled through long use.

Wear an eye shade if you have to face the light while reading or while studying.

Get in the habit of sitting erect while at work; it costs nothing but effort, and it pays.

CHAPTER XV

AVOIDING ACCIDENTS

"Do not take risks; it is more clever to be careful than to be risky."

Keep matches out of the reach of small children.

Do not permit small children to play near an open fire.

Do not let broken glass, pieces of tin, or boards containing nails remain where anyone might step on them.

If you see a banana peeling on the sidewalk, kick it into the gutter.

Stop, look, and listen before crossing a street.

Do not venture out in a leaky banca.

Do not rock a banca to tease a friend who is afraid of the water; the banca may capsize.

If you are subject to cramps, do not go swimming alone.

Do not play in a busy street.

Do not "hang on" street cars, carromatas, automobiles, etc. The fun is not worth the risk.

Learn the proper way to get on and off street cars.

Do not walk on a street-car or railroad track.

Do not let a child play with scissors.

Do not carry an open knife.

Do not shout in anyone's ear.

Do not tease a dog.

Do not pull or box a child's ears. A slight blow on the ear may cause deafness.

CHAPTER XVI

QUESTIONS EACH GIRL SHOULD ASK HERSELF

These questions concern each girl as an individual and are not to be discussed in class. They have been put in the first person to make it distinctly apparent that they are purely personal and that they are to be answered mentally. Any girl who takes proper care of herself should be able to answer all of them in the affirmative.

The questions follow:

Do I bathe often enough?
Do I keep my hair and my scalp clean?
Do I arrange my hair neatly?
Do I keep my face, my neck, my ears, and my nose clean?
Do I refrain from the use of too much powder on my face and on my neck?

Do I keep dirt and matter out of the corners of my eyes?
Do I keep my hands clean?
Do I take the proper care of my finger nails?
Do I take the proper care of my teeth?
Have I tried to train my ears to listen?
Do I always wear clean clothes and do I keep them properly fastened?
Do I always carry a clean handkerchief?
Are my shoes comfortable?
Do I keep my shoes clean and well fastened?
Do I always eat breakfast before going to school?
Do I walk enough every day?
Do I stand correctly?
Do I breathe properly?
Do I sleep enough?
Do I sleep with the windows open?
Do I study by a good light?
Do I drink pure water?
Do I eat at regular intervals?
Do I refrain from eating between meals?
Do I chew my food well?
Do my bowels move every day?

PART III

SIXTH-GRADE HOUSEKEEPING AND COOKING

PART III

SIXTH-GRADE HOUSEKEEPING AND COOKING

CHAPTER I

DIRT, DUST, AND DUST PLANTS

Dirt.—Dirt is any unclean substance. It may be animal, vegetable, or mineral matter.

Dust.—Dust is matter powdered so fine that it can float in the air.

Dust Plants.—Dust plants grow from tiny spores that float in the air as dust. Molds, yeast, and bacteria are dust plants.

Molds are thread-like and can be seen easily. They live in moist warm places and destroy food, clothing, etc. Examine (with a microscope if one is available) a piece of bread just beginning to mold; then examine a piece that is very moldy. It will be seen that molds start growing on the outside of food, branch out, and then penetrate into the food like the roots of a plant. Rotting is usually a process of mold growth, and mildew is a kind of mold. Examine a rotting banana; a piece of mildewed cloth. If clothing is kept in dry places away from dust, it will not mold.

Yeast is the dust plant that causes fermentation in many liquids. We shall learn more about yeast later.

Bacteria are the most minute of all dust plants. They live for the most part in the upper layers of the earth, but they are carried everywhere by wind and by rain. They are in the air we breathe, in the food we eat, and in the water we drink; they are on human bodies and on the bodies of animals. They require moisture and warmth for growth. They multiply rapidly. Some kinds of bacteria are dangerous as disease carriers, while others are harmless. As we cannot readily distinguish the dangerous from the harmless bacteria, we should try to destroy all. This is why we work so hard to rid our homes of dirt, dust, and dampness. Fresh air, sunlight, and sunshine destroy many harmful bacteria. The housekeeper may reduce to the minimum the number of bacteria in her house if she studies and applies the rules of sanitary housekeeping.

REVIEW

1. Why are dirt and dust dangerous?
2. How do dirt, dust, and bacteria get into the house?
3. Describe briefly the proper method of sweeping; the proper method of dusting. (See page 19.)

CHAPTER II

GENERAL CLEANING OF A ROOM

Rooms in constant use should be swept and should be dusted every day. The sala or the living room needs cleaning at least twice a day. A thorough cleaning of each room in the house is necessary every week.

GENERAL METHOD.—First, clean the closets, the drawers, etc. Dust and cover the large pieces of furniture before sweeping the walls. Clean the ceiling and the walls with a covered broom or with a covered brush. Wipe dust from the fronts and from the backs of picture frames. Sweep the floor carefully and wait for the dust to settle. If the floor is of hard wood, polish it; if the floor is of soft wood, scrub or wipe it. Dust the woodwork and the smaller pieces of furniture (beginning with the things highest up) after which uncover the larger pieces of furniture and put them in place.

PRACTICAL WORK.—Clean the school kitchen, a classroom, or a room in the domestic-science building.

CHAPTER III

FOOD GROUPS

Food is the nutritive material which builds and repairs the body and furnishes it with heat and energy.

The substances used for food are commonly classified in three groups: (1) proteins, (2) carbohydrates, and (3) fats. Certain other substances (water, salts, etc.) which are not ordinarily classed as foods, but which are indispensable to life, are arranged in two groups: (1) water and (2) minerals.

The proteins build up and repair the tissues of the body. Meat, fish, chicken, eggs, milk, cheese, beans, peas, mongos, and nuts contain proteins. Proteins are necessary for growth. Nothing else can take the place of the proteins in building and in repairing tissues.

The carbohydrates (starch, sugar, etc.) and the fats serve as fuel for the body by providing heat and energy. If carbohydrates and fats are not eaten, the proteins must then serve as fuel. Bread, rice, corn, potatoes, camotes, gabi, ubi, tapioca,

FISH
PEANUTS

Foods Rich in Protein

etc., contain starch, while many plants and fruits contain sugar. Household sugar is obtained either from cane or from beets. Cream, butter, fat meat, lard, yolks of eggs, cod-liver oil, olive oil, cotton-seed oil, peanut oil, coconut oil, and oil nuts contain fats in abundance.

Although water is not strictly a food, it is essential to life. It is needed to soften and to dissolve food, to aid in carrying off waste, and to keep the blood in good condition. Water helps to keep the body at the normal temperature of 36.75°C (98°F). Besides drinking water, we take it in many of our foods, especially in fruits and in vegetables. Water is as necessary for keeping the interior of our bodies in order as bathing is necessary to keep the exterior clean.

The principal use of the minerals is to build and to repair the bones, the teeth, the nails, and the hair, and to regulate body processes by keeping the blood and the digestive fluids in proper condition. Mineral matter is found in small proportions in many foods. Among the most important minerals in foods are: sulphur in eggs; iron in meat and in green, leafy

CAMOTES
GABI
POTATOES
BREAD
CORN MEAL
RICE
FLOUR

Foods Rich in Starch

vegetables; calcium in milk; phosphorus in meat, in fish, and in cereals; and potassium and sodium in vegetables. Salt is the only mineral which we add to our food.

One or more of the food groups sometimes predominates in a single food; for example, rice is very little more than a carbohydrate; butter is almost pure fat. Some foods contain all food groups: for example, milk contains them in such proportions as to supply all the nourishment the body needs during the early months of life.

Approximate composition of the human body:

Water	65 per cent
Protein	18
Fat	12 (varying greatly)
Carbohydrate	less than 1
Ash	4 to 5

Practical Work.—Classify fifteen different kinds of food sold in the market.

REVIEW

1. Define food. Name the food groups.
2. What is the normal temperature of the body?
3. Name some of the foods that contain proteins.
4. What work do proteins do in the body?
5. What two food groups serve as fuel for the body?
6. Name some of the foods that contain starch; some that contain sugar.
7. What is the chief food element in rice?
8. What mineral do we add to our food?
9. What is the principal use of the minerals?
10. Name some of the foods rich in mineral matter.

CHAPTER IV

PROPORTION OF GROUPS IN OUR FOOD

All Food Groups Needed.—Our food must be carefully chosen to give needed variety to the diet and to combine foods so that we may have the right food groups in the right proportion. Each meal should consist of foods that contain proteins, carbohydrates, fats, water, and minerals.

The amount of food to be eaten each day should be measured in a manner similar to the measurement of the fuel for an engine. In addition to the fuel supplied by the carbohydrates and by the fats, the body requires proteins and minerals to repair the worn parts and to provide for growth.

The Proportion Varies.—The proportion of the different elements of food needed varies with age and with occupation:

but, until we are ready to make a special study of this subject, we must speak in terms of a well-nourished adult.

If we could measure the food as it is prepared for the adult and if we should separate it into the several food groups, we would find that the proper daily proportion is as follows: about five sevenths of the food required in a day is carbohydrate; less than one seventh, fat; and a little more than one seventh, protein.

Men usually require more food than women, while growing boys and growing girls need nearly as much as men. A person working in the open air usually needs more food than one who does light work in the house. When we are very active and when we work or play very hard, we need more blood, as well as more air, because we use up more muscle and heat energy; we therefore need more food to make up the loss.

PLANNING OF MEALS.—When planning meals, the main points to consider are: the number of persons to be provided for, their age, and their occupation; the cost of foods; the supply of food available; and the time required for preparation.

If possible, include plenty of milk in the diet of children. See that children get enough proteins and fats; see that they get plenty of fresh fruit and vegetables; be sure that they do not eat too much sugar or too many sweets.

Do not serve to persons working indoors foods that are difficult to digest. A hot beverage may be added to the menu for breakfast. The heavy meal may be served at noon or it may be served in the evening.

A WELL-BALANCED MEAL.—The following grouping of foods should be helpful in planning well-balanced meals:

Foods Rich in Protein.—Meat, fish, fowl, eggs, milk, cheese, dried beans, mongos, peanuts.

Foods Rich in Starch.—Rice, corn, camotes, bread, gabi, ubi, cassava, misua, sutangjon, miki.

Foods Rich in Sugar.—Dulces, honey, molasses, sirup, jellies, jams, cakes, dried fruits, candy.

Foods Rich in Fat.—Lard and other fats used in cooking, fat pork, chocolate, cream, nuts, olive oil, rich cakes, butter.

Foods Rich in Minerals and in Acids.—Fruits and vegetables.

A well-balanced meal should include at least one food from each of the groups above. No meal should be served without a vegetable or a fruit.

PRACTICAL WORK.—Make out a few menus suitable for the homes represented in the class.

CHAPTER V

DIGESTION AND ABSORPTION OF FOOD

Our bodies are constantly wearing out, but they do not waste away because they are being continually repaired. Every little particle of worn-out matter is being replaced by a new one. The food we eat supplies the materials to build up the parts of the body that are wearing out. Consequently, if we do not eat the proper kinds of food, the body will lack certain materials necessary for building and repair.

DIGESTION.—The preparation of the food within the body so it may be used in nourishing the body is called digestion. An important aid in the digestion of nearly all foods is proper cooking. Cooking changes the food so it can be chewed easily.

MOUTH DIGESTION.—After the food is cooked, it is taken into the mouth. Here it is mixed with saliva and ground to bits. The saliva comes from glands on each side of the mouth. It softens the food and changes starch into sugar. We can give the saliva a better chance to do its work properly by taking small bites and by chewing thoroughly. After the food is chewed, it is swallowed.

THE ACTION OF THE STOMACH.—When swallowed, the food passes through a long narrow tube to the stomach. The stomach is a bag with a coat of loosely woven muscles, and it has a queer little gate at the lower end which will not permit the food to pass out until it is ready for the intestines.

As soon as the food passes into the stomach, the muscular coat begins to contract, first lengthwise and then crosswise. It thus keeps the food churning to and fro, grinds it to a liquid paste, and mixes it with a fluid, called the gastric juice. The stomach churns from two to four hours after each meal, according to the kind of food eaten, the way in which it was prepared, and the health of the person eating it. After this the food passes through the little gateway to the intestines.

Between meals the stomach should be given an opportunity to rest. Hence, eating between meals should be avoided.

DIGESTION IN THE INTESTINES.—At the lower end of the stomach, the food canal becomes narrow again. This portion below the stomach is called the intestines. In an adult the intestinal tube is about 9 meters long and is coiled up and packed away in the cavity of the abdomen below the stomach. The last meter or more of the intestinal tube is larger than the rest.

After the food passes from the stomach into the intestines, it mixes with juices which are the most important factors in digestion.

ABSORPTION OF FOOD.—As the food passes slowly along the small intestine, its liquid parts soak into tiny spaces through which it gets into the blood. By the time the food reaches the large intestine, most of the water and the digested food have been removed and carried away by the blood. Only the waste matter, such as hard parts of fruits, bits of skin, husks, etc., remain. This is driven on and out of the body. These waste portions should be expelled at least once a day to insure good health. If this is done at the same hour each morning, the bowels will form the habit of moving at this time. If one's bowels do not move regularly, one has headache and will become ill.

THE BLOOD AND ITS CIRCULATION.—When the food gets into the blood, it is taken to all parts of the body, and each part selects from the blood just the food it needs.

Because the blood goes around and around in the body in something of a circle, it is said to circulate. The tubes through which the blood is carried are called blood vessels. The arteries carry the blood from the heart to the various parts of the body, while the veins carry the blood back to the heart.

THE HEART.—If you place your hand over the chest a little to the left of the breastbone, you will feel your heart beating. If your heart stops beating, you die. If you stand still and count the heartbeats, you will find that there are about eighty each minute. When you exercise, the heart beats faster. It even beats faster when you are standing than when you are sitting; faster when you are sitting than when you are lying down; faster when you are awake than when you are asleep. The more active we are, the more rapidly the tissues of the body wear away and, hence, the more food they need. As they can get food only from the blood, the heart must pump the blood faster to supply the increased demand.

CHAPTER VI

METHODS OF COOKING

Cooking is the preparation of food for the table by means of heat. We cook food (1) to make it look more attractive, (2) to make it more digestible, (3) to improve the flavor, and (4) to kill disease germs which may be in it.

Various methods of cooking are explained below:

Boiling is cooking in boiling water or in some other boiling liquid.

Simmering is cooking in hot water below the boiling point.

Stewing is cooking slowly in a small amount of water below the boiling point.

Steaming may consist of moist cooking by exposure to steam in a steamer or it may consist of dry cooking in a double boiler.

Frying is cooking by immersion in hot fat deep enough to cover the food.

Sautéing consists in cooking food in a small amount of hot fat and turning it over while it is cooking. This method is often incorrectly called frying.

Roasting is cooking by direct exposure to live coals and applies to large articles. We roast a pig or a whole chicken. Cooking meat without the use of water in an oven is sometimes called roasting.

Broiling is also cooking by direct exposure to live coals, but is used only for small cuts of meat, of chicken, and of fish, or to small articles in general, which are placed over the fire and turned often while cooking.

Pan Broiling is cooking in a very hot pan slightly greased. With a perfectly smooth pan, no greasing is necessary. This method is used when it is inconvenient to broil over live coals. The smaller and the thinner the article, the hotter the fire should be.

Baking is cooking in an oven.

Toasting is browning over the fire. We toast dry foods.

Popping is causing kernels of corn or of rice to burst open suddenly when heated over a fire.

PRACTICAL WORK.—If possible, pop corn or rice. (See recipes.)

REVIEW

1. Name ten different foods.
2. Define cooking.
3. Give reasons for cooking food.

CHAPTER VII

BEVERAGES

The principal use of a drink is to quench thirst—the body's demand for water. Since *beverage* is often defined as any kind of drink, we might call water the *common* beverage. The pre-

pared beverages, such as tea, coffee, chocolate, cocoa, satisfy thirst simply because of the water they contain.

TEA.—Tea is made from the leaves of a plant produced in China, in Japan, in India, and in Java. Most of the tea used in the Philippines comes from China and from Japan.

Tea contains two substances that affect the human body. One, called *theine*, stimulates the nervous system; the other, called *tannin*, is injurious to the lining of the stomach. Black tea contains less tannin than green tea. The longer tea stands after boiling water has been poured over it, the more tannin there is dissolved from the leaves. Tannin is especially injurious to young people. Therefore, tea should never be given to children; it is a beverage for adults. If you wish as little tannin as possible, use black tea and serve it within five minutes after pouring the boiling water over it.

COFFEE.—Coffee is made from the seeds of a tropical plant. Brazil produces about three fourths of the world's coffee. The Philippines at one time produced enough to have a surplus for exportation, but the plants were attacked by a pest, and now not enough is produced for home consumption.

Coffee contains *tannin* and *caffeine*, a stimulating compound similar to theine in tea.

Tea and coffee are not ordinarily classed as foods, but when prepared with water and when served with sugar and milk, they have the food value of the water, sugar, and milk.

Coffee retards growth; it makes boys and girls nervous, cross, and weak. Like tea, it is a drink for adults.

CHOCOLATE AND COCOA.—Chocolate and cocoa are made from the pulverized seeds of the cacao plant, which grows only in tropical regions. The seeds or the beans are taken from the pods and all the pulp around them is removed. After drying, they are roasted and crushed, and the shells are winnowed out. The parts of the beans left are called roasted nibs. When these nibs are ground and molded into cakes, bitter chocolate is the result. If sugar and flavoring are added, we have sweet chocolate. Cocoa is made of nibs from which much of the fat has been removed.

Chocolate and cocoa contain much nourishment. Pure chocolate is about one-half fat. Chocolate and cocoa are improved in flavor by boiling for a few minutes.

The cacao tree grows in many parts of the Philippines. There are chocolate factories in Manila, and chocolate is made in tiendas and in homes in many parts of the Islands. The homemade product is formed into small cakes which contain sugar and ground nuts. Chocolate as a drink is the principal prepared beverage in the Philippines.

Teakettle Teapot Coffeepot Chocolate Pot

Practical Work.—Make tea, coffee, chocolate, and cocoa. (See recipes.) Remember to use freshly boiled water for all of these beverages.

REVIEW

1. What is the principal use of a drink?
2. What is the meaning of thirst?
3. Name some of the beverages.
4. What injurious substance is found in tea and in coffee?
5. What is the stimulating substance in tea? in coffee?
6. What is the difference between chocolate and cocoa?
7. What is the principal prepared beverage in the Philippines?

Chapter VIII

EGGS

Food Value of Eggs.—The white of an egg contains protein and water. The yolk contains much fat and some protein. Although eggs contain much protein and much fat, they contain no carbohydrates. If eggs are eaten with toast, carbohydrates are obtained because the toast contains both starch and sugar. Eggs furnish an excellent food for the sick if they are properly cooked.

Practical Work.—Prepare for one person a breakfast consisting of fruit, poached eggs on toast, and a cup of cocoa or of chocolate. Serve it on a tray, arranging it as daintily as possible. This would be a good breakfast for a person slightly ill.

To prepare this breakfast, proceed as follows: Set the tray, following the same rules used in setting the table. (See page

35.) Place the cup and the saucer at the right of the plate with the handle of the cup to the right. See that there is not enough water in the drinking glass to spill when the tray is lifted. Put salt and pepper on the tray. Prepare the fruit and put it on the tray. Then make the cocoa. When the cocoa is hot, make the toast and poach the egg. Serve while hot.

Slightly stale bread is better for toast than fresh bread, because it is less moist and browns more quickly. The best toast is obtained when the piece of bread is held directly over the live coals. It should first be held at some distance from the coals, however, to drive the moisture out of it.

Food Value of the Breakfast Just Served.—The eggs contain protein to build up and to repair tissues and they contain fat to serve as fuel. The toast contains carbohydrates which give heat and energy. The cocoa contains much nourishment because it is made of milk, cocoa, and sugar. Milk contains all the food groups. Cocoa contains a little fat. Sugar gives heat and energy. If an orange is served, it will give the patient an appetite for the more nutritive part of the breakfast. The fruit contains water, minerals, and sugar.

REVIEW

1. What is the food value of eggs; of fruit?
2. What food element does toast contain?

To the Teacher.—In connection with this chapter, review the fifth-grade chapter on eggs. (See page 47.)

Chapter IX

MILK

Milk is the best food for infants. It is an excellent food for invalids as well as for persons in good health. Both sweet and sour milk are extensively used in cooking.

In the Philippines milk is obtained from carabaos, from goats, and from cows. The number of cows is small.

Do not use fresh milk unless you know it is pure. Do not buy milk from venders because they may dilute it. If you cannot obtain *pure* fresh milk, use canned milk.

Suggestions to Milkers.—Be sure that the milk animal is healthy. Do not milk with dirty hands. Before starting to milk, wash the udder with clean water.

Keep milk in a cool place. Do not expose it unnecessarily to the air. Wash and scald all receptacles used for milk.

SCALDING MILK.—Fill the lower part of a double boiler one-third full of boiling water. Then put the milk in the upper part of the boiler and heat it until fine bubbles appear around the edges. This will kill bacteria which may be growing in the milk.

Double Boiler An Improvised Double Boiler

SEPARATING MILK INTO ITS PARTS.—By a series of operations milk may be separated into its parts. After fresh milk stands a while, the fat rises and collects on the surface as *cream*. If the cream is skimmed and beaten or churned, the fat in it is separated from the water, and *butter* is formed. When milk sours, the protein (called *casein*) is separated from the water and forms *curd*. The curd may be used to make cheese. The watery serum left is called *whey*.

PRACTICAL WORK.—If possible, secure 1 liter of fresh milk; scald a little of it; let the cream rise on the rest; skim the cream and beat it with an egg beater until the butter comes.

Make coconut butter. (See recipes.)

REVIEW

1. From what animals is the supply of fresh milk in your locality obtained?
2. What precautions should be observed by a milker before milking?
3. Tell what you know of the food value of milk.
4. What is cream; butter?

CHAPTER X

VEGETABLE SOUPS

Vegetable cream soups are nutritious and are easily digested.

MAKING VEGETABLE SOUP.—Cook the vegetable until it is tender. Rub as much of the cooked vegetable as possible through a strainer. Mix the strained pulp with a thin white sauce, using 1 cup of strained vegetable pulp to 1 cup of thin white sauce. If the soup is too thick, thin it with hot milk or with hot water.

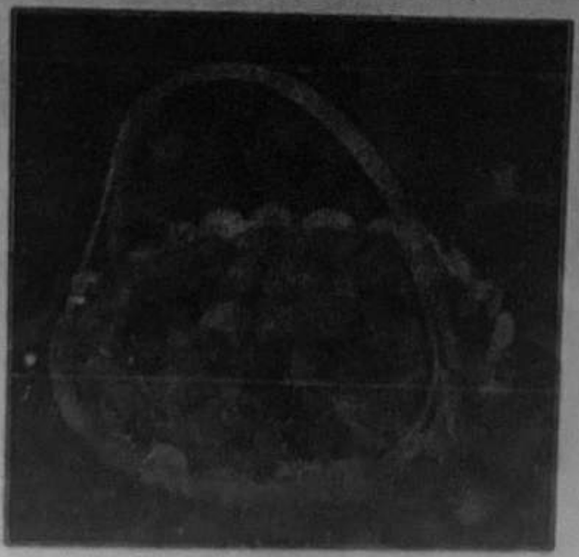
Practical Work.—Make a thin white sauce; a medium white sauce; a thick white sauce. (See recipes.)

Make vegetable cream soups, using corn, tomatoes, potatoes, or beans. (See recipes.)

Chapter XI

DOUGHS AND BATTERS

Some grains are coarsely ground into *meal*, while others are finely ground into *flour*. A mass of moistened flour or meal, kneaded or unkneaded, but not yet baked, is called *dough*. If enough liquid is used to make a mixture that will pour, it is called *batter*. Other ingredients may be added to these mixtures, which may then be made into bread, cake, etc.



Cookies

Dough-and-Batter Proportion.—This table should be learned:

One measure of flour to one of liquid makes a thin batter, as for griddle cakes.

Two measures of flour to one of liquid makes a drop batter, as for muffins.

Three measures of flour to one of liquid makes a soft dough, as for biscuits.

Four measures of flour to one of liquid makes a stiff dough, as for cookies.

Making Batters Light.—Batters are made light either by beating air into them, or by adding to them eggs which have been beaten, or by entangling gas in them. Gas makes a batter rise and is produced in a batter either by using soda and sour milk (1 teaspoon of soda to ½ liter or 2 cups of sour milk), or by using soda with molasses (1 teaspoon of soda to 1 cup of molasses), or by using soda with cream of tartar (1 teaspoon of soda with 2 slightly rounding teaspoons of cream of tartar), or by using yeast.

Baking powder is a preparation containing soda and cream of tartar and can be used in place of soda if sweet milk or water is used. Use 2 teaspoons of baking powder to each cup of flour. Avoid using too much baking powder as it will tend to make the holes in the bread or the cake too large and thus spoil the general appearance. After gas escapes from baking powder, a solid substance is left that may be injurious. Doughs and batters lightened by baking powder should be prepared rapidly and should be baked immediately, before the bubbles break.

TEMPERATURE OF THE OVEN.—Before mixing a quick bread, the oven should be hot. Different preparations require different temperatures. The following temperature tests may be easily applied: When writing paper placed in the oven turns

A Satisfactory Oven for Baking Quick Bread golden brown in five minutes, the oven is said to be *moderate*; but if the paper turns dark brown in five minutes, the oven is *hot*.

Muffins, biscuits, and cookies require a very hot oven.

Since flour mixtures (and other foods that must rise before browning) require heat from underneath, be sure to place them on the bottom of the oven while they are baking. If there is danger of burning, place a rack or an inverted tin under the vessel containing them.

PRACTICAL WORK.—With small quantities of material make a thin batter; a drop batter; a soft dough; a stiff dough.

Make quick breads. See recipes for making hot cakes, corn griddle cakes, rice griddle cakes, muffins, rice muffins, corn muffins, corn bread, baking-powder biscuits, cookies, cinnamon rolls, brown bread, corn-meal rolls.

REVIEW

1. Distinguish between meal and flour.

2. Distinguish between dough and batter.

3. What proportions of flour and liquid make a thin batter; a drop batter; a soft dough; a stiff dough?

4. Name four methods of producing gas in a batter.

5. Give the proper proportion of baking powder to each cup of flour.

6. Give the test for a moderate oven; for a hot oven.

CHAPTER XII

MEAT

Meat is the flesh of animals used for food. It contains protein, fat, water, mineral matter, and other substances. The food value of meat depends largely on the amount of protein and on the amount of fat it contains.

KINDS OF MEAT.—*Beef* is the flesh of the ox or the cow, when slaughtered for food. It is the most nutritious of meats. *Mutton* is the flesh of sheep. *Lamb* is the flesh of a sheep less than one year old. *Veal* is the flesh of a calf. *Pork* is the flesh of a hog or pig. *Bacon* is the salted and cured sides of the hog. *Hams* are the salted and cured thighs of hogs. *Shoulders* are the upper joints of the forelegs and adjacent parts (including more or less of the neck and the chest) of a hog dressed for market.

CARE OF MEAT.—Meat should be kept in a clean cool place. Before being cooked, it should be wiped well with a cloth wrung out of clean cold water.

Why Meat Is Cooked.—Meat is cooked (1) to improve the appearance and the flavor, (2) to kill germs, and (3) to make it tender.

Tender and Tough Meat.—The lean meat of the animal is muscle. If the muscles have been little used, the meat is tender. More juice is found in muscles which have been very active. Tender meat may be cooked quickly, while tough meat requires long, slow cooking. Tender meat should be broiled or roasted or baked; tough meat should be stewed or boiled.

Practical Work.—Scrape a piece of raw lean meat with a knife or with a spoon until no fiber is left. Observe the tissues.

Cut meat into small pieces; cover the pieces with cold water. Watch the effect.

Sprinkle a piece of meat with salt. What is the result?

Make scraped beef, beef tea, beef juice. Make a stew of tough meat. (See recipes.)

REVIEW

1. Define meat.
2. On what does the food value of meat depend?
3. Define beef; mutton; lamb; pork; bacon; hams; shoulders; veal.
4. How should tender meat be cooked?
5. How should tough meat be cooked?

To the Teacher.—Find out the kinds of meat used in the locality and with the aid of the recipes in this book teach the girls how to make them palatable and digestible.

Chapter XIII

FISH

Composition and Food Value.—Fish contains protein, fat, water, and mineral matter. Since fish has about the same food value as lean meat, it is usually an economical substitute for meat.

Practical Work.—Bake fish. Prepare fish *en blanco*. (See recipes.)

To the Teacher.—Introduce this chapter with a review of the fifth-grade chapter on fish. (See page 48.)

Chapter XIV

POULTRY

Carving a Chicken at the Table.—To carve a chicken at the table proceed as follows:

Place the fork securely in the fowl at the highest point of the breastbone.

Cut off the drumstick and the thigh on the side away from the carver. Do this by a circular cut around the joint.

Cut through the joint, separating the drumstick from the thigh.

Cut the wing from the same side in the same way.

Remove the leg and the wing from the side next to the carver.

Cut thin slices from the breast, slanting the knife from the front of the breastbone down toward the wing joint. Do this on both sides.

Serve a piece of light meat and a piece of dark meat to each person. Serve dressing with a spoon, placing a spoonful on each plate.

PRACTICAL WORK.—Prepare *arroz a la valenciana* or roast chicken or boned chicken. (See recipes.)

TO THE TEACHER.—Introduce the sixth-grade chapter on poultry with a review of the fifth-grade chapter on poultry. (See page 49.)

CHAPTER XV

SALADS

Salads may be made of vegetables, of fruits, of eggs, of fish, or of meat and served with nuts, with French, mayonnaise, or boiled dressing.

FOOD VALUE.—Meat or egg salads contain much nourishment and may often take the place of meat. They afford opportunities for the use of small amounts of left-over food and are thus economical. A salad of green vegetables is wholesome, refreshing, and appetizing; it is valuable for the mineral matter it contains and for the fat in the oil of the dressing.

PREPARATION OF MATERIALS FOR SALADS.—From meat or fish remove all bone, gristle, and skin. Cut all vegetables (except green leaves) and all meats into pieces of uniform size. If lettuce or parsley or other leaves are used, sort and wash them in several changes of pure water.

Season the salad well and garnish it so it will look attractive.

PRACTICAL WORK.—Make mixed-vegetable salad and serve with French dressing. Make fruit salad, using mixed fruits. If mayonnaise dressing is used for fruit salad, omit the mustard. Make cabbage salad and serve with a boiled dressing. Make banana salad. (See recipes for salads and for salad dressings.)

REVIEW

1. Of what are salads made?
2. Name three kinds of salad dressing.
3. Tell something of the food value of salads.
4. How should meat or fish be prepared for salad?
5. How should green leaves be prepared for salad?

Chapter XVI

CAKES

Cakes are made with butter or without butter. Plain cake, fruit cake, and pound cake are made with butter. Sponge cake and angel cake are made without butter.

The ingredients of cakes are sugar, butter or other fat, milk or water, eggs, salt, baking powder, flavoring, flour. Only fresh eggs and the best quality of sugar and of butter or fat should be used.

Layer Cake

Getting Things Ready for Making a Cake.—Assemble the ingredients and the utensils needed. A bowl and a wooden spoon will be needed for mixing. The baking pan should be lined with buttered paper. See that the fire is in condition to give an even, steady heat.

Making Butter Cakes.—Put butter in the bowl and cream it. Add sugar slowly, working it into the butter with the wooden spoon. Work this mixture until it is light and foamy. Separate the yolks and the whites of eggs and beat the yolks until they are light and creamy. Add the beaten yolks to the butter and the sugar. Sift the baking powder and the spices, if used, with the flour. Add the liquid and the flour mixture alternately. Then if dried fruit is used, add it, flouring it slightly to keep it from settling to the bottom. The egg whites, beaten stiff, are added last.

MAKING SPONGE CAKES.—Separate the yolks and the whites of the eggs. Beat the yolks until thick and creamy. Add sugar slowly and beat well. Add the flavoring. Beat the whites of the eggs until dry and add to the mixture. Sift the flour three times; cut and fold it into the mixture. Cakes made without butter require a cooler oven than cakes made with butter. (See oven tests, page 92.)

Divide the time for baking of all cakes into quarters. In the first quarter, the cake begins to rise; in the second, it continues to rise and begins to brown; in the third, it rises in the center and browns; in the fourth, it settles to a level and shrinks from the pan.

HOW TO KNOW WHEN A CAKE IS DONE.—When done or cooked sufficiently, a cake will shrink from the sides of the pan. The crust will be nicely browned. A clean straw or toothpick used to pierce the cake will come out with no particles of dough attached when the cake is done.

Remove the baked cake from the pan by inverting the pan. Cool the cake on a plate or on a board.

PRACTICAL WORK.—Bake a butter cake in loaf. Bake a sponge cake. Bake small cakes (mamon). (See recipes.)

Loaf Cake

REVIEW

1. Name some of the ingredients of cakes.
2. Tell what must be done to get things ready for baking a cake.
3. Tell how to mix a butter cake.
4. What is the test for a moderate oven; for a hot oven?

[illegible]?

5. Describe the changes in the appearance of a cake during each quarter of the time it is baking.
6. How can you tell when a cake is done?
7. Tell how to remove a cake from the baking pan.

To THE TEACHER.—Spend the rest of the year preparing and serving simple meals.

For further practice in cooking select from this list of recipes, those most suited to your locality:

Sinigan
Pansit
Gulay (guava)
Arros a la Cubana
Repollo huevos
Omelets
Empanada
Doldol
Fish en adobe
Torta fish
Puddings
Lumpiá

PART IV

SIXTH-GRADE HOME NURSING

PART IV

SIXTH-GRADE HOME NURSING

CHAPTER I

CARE OF THE SICK

The comfort, and often the recovery of a sick person, depends much on the nursing. Because not everyone in case of illness can afford the luxury of a trained nurse, it is intended here to teach schoolgirls how to be of assistance to those who cannot always command experienced help.

ROOM AND FURNISHINGS.—Sunshine, pure fresh air, and freedom from noise and odors are the principal things to be considered in choosing a room for the sick. If the patient cannot be put in a separate room, the bed should be placed in a corner near a window and should be shut off from the rest of the room by screens.

Do not keep the room dark, but the eyes of the patient should be protected from strong light by short washable window curtains. The best plan is to have the window behind the head of the bed; then sun and light can be admitted without disturbing the patient. If there is a draft, cover the head of the bed with a sheet.

The ideal bed is of iron, of single or of three-quarter width. If the bed is not of iron, it should be of strong material that can be kept clean. The bed should be far enough from the walls to allow passing on all sides.

A small table should be near the bed to hold the patient's food tray, which should be removed as soon as the meal is completed. Empty or half-empty dishes should never be left near the patient.

Medicine bottles and all necessary utensils should be kept out of the patient's sight—in an adjoining room if possible.

The surroundings should be bright and cheerful. A few fresh flowers will help make the room more attractive. However, the flowers should be removed at night, and the water they are in should be changed daily.

Cleaning the Room.—The room should be cleaned every day. Dust the furniture, the woodwork, and the floor (in the order mentioned) with a damp cloth. Do not do anything to scatter dust or to raise it in the air because, besides causing it to settle where you have cleaned, it lifts germs to the nostrils. The bedstead should not only be dusted with the damp cloth, but should be wiped with a cloth moistened with petroleum or with a 5-per-cent solution of carbolic acid (*agua fenicada*). As soon as a dustcloth is dirty, exchange it for a clean one. A dirty cloth will not clean anything. When the dusting is done, the cloth should be washed in hot soapsuds and should be dried in the sun. If the patient has a contagious disease, the dustcloth should be boiled twenty minutes before being dried.

Cooling the Room.—The sprinkling of porches and of roofs will help to cool the air. A sheet wrung from cold water may be hung in an open door or window. The cooling effect thus produced depends on the rapidity of evaporation. If much moisture is present in the atmosphere, evaporation is slow and the cooling is slight.

Bathing the Patient.—Probably nothing refreshes a patient, who is forced to stay in bed day after day, more than a daily bath.

The best time for this is in the morning (an hour after breakfast) before changing the sheets or before making the bed. Never give a bath until at least an hour after a meal.

The following things will be needed for bathing a patient: a basin; plenty of hot and plenty of cold water; two bath towels; a washcloth, preferably of gauze; unscented soap; a pail into which to empty the dirty water; and a bottle containing equal parts of alcohol and water. These should be placed on a chair or on a table near the bed.

Try to make the bath a pleasure and not something to be dreaded. Fill the basin half full of warm water. It is better to shake the soap in the water, than to rub it directly on the body.

Slip something under the patient to protect the bedclothing. Cover the patient with a sheet and take off the gown. Wash the patient's face, ears, and neck and dry them with a towel. Then wash the arms and the hands.

Expose only one portion of the body at a time, and do not do this longer than is necessary. To protect the bed, place a bath towel under each part while it is being washed. Dry each part well before proceeding to the next.

After washing the face, the ears, the neck, the arms, and the hands, wash the chest and the abdomen. Then turn the patient on the side and wash the back. After drying the back with a towel, rub it with a 50-per-cent solution of alcohol. The alcohol bath is very refreshing to one obliged to remain in bed.

After the alcohol rub, bathe the rest of the body. To bathe the feet, put the washbasin on the bed, bend the patient's knees, and place the feet in the basin so that they may rest flat on the bottom. Let them soak for a few minutes and then wash them with soap and water, after which dry them thoroughly, especially between the toes.

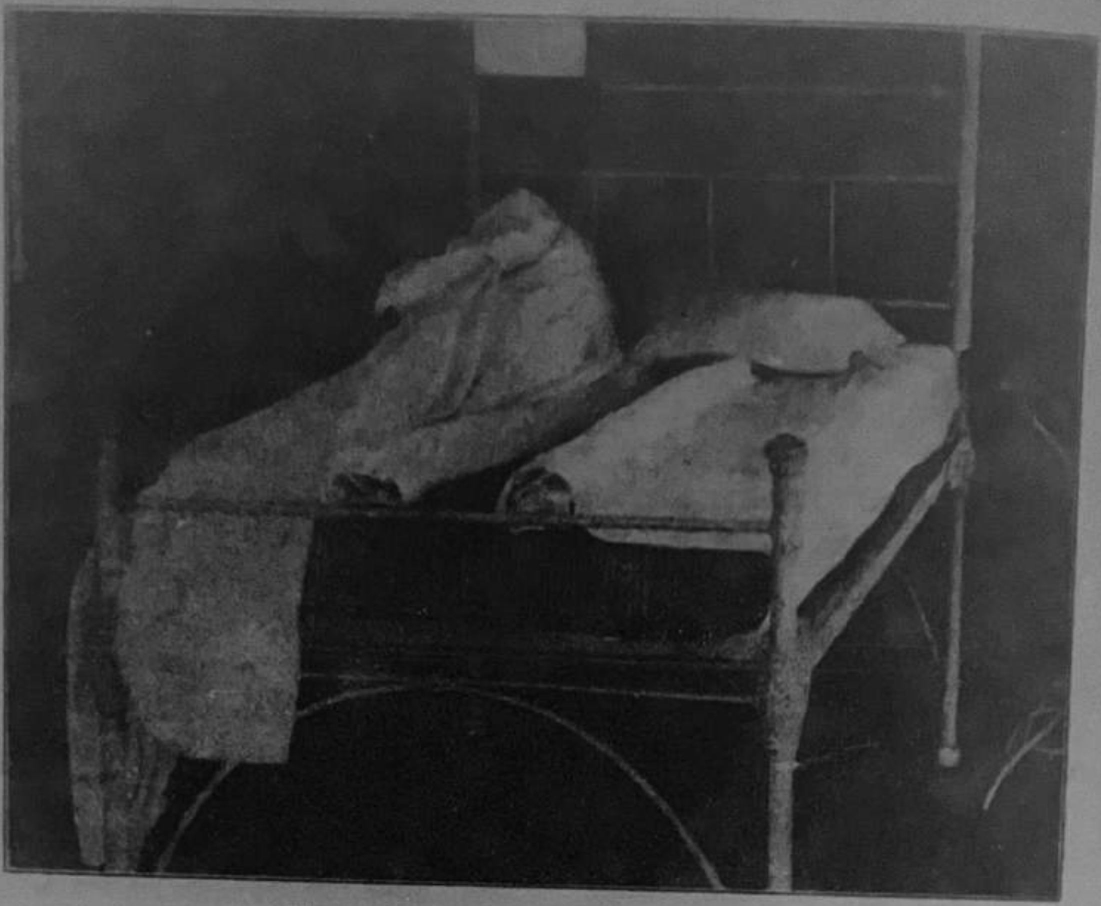
CARE OF THE MOUTH.—If the patient is too ill to brush her teeth, the mouth may be cleaned thoroughly with a simple mouth wash such as a boric-acid solution or a solution of ½ teaspoon of salt in ½ glass of water. To do this, wrap a piece of soft cotton or gauze around a thin wooden splint; dip this in the mouth wash, and with it clean every part of the mouth and the tongue, wiping the gums and the teeth thoroughly and gently. Then let the patient rinse out the mouth with fresh water.

CARE OF THE HAIR.—The patient's hair should be cared for daily because, if neglected, it may become badly tangled. When combing the hair, protect the pillow with a towel. Part the hair in the middle from the forehead backward. Comb a small part of the hair at a time. If there are any tangles, hold the hair firmly between the head and the tangles and comb gently so as not to pull it. After combing one side, braid the hair close to the ear. Then comb and braid the other side in the same manner. Wash your hands when you have finished.

CHANGING THE MAT AND THE UNDER SHEET WITH THE PATIENT IN BED.—Gently take the pillow from under the patient's head and move her to one side of the bed. Roll the soiled sheet and mat into a soft roll at the patient's back. Place the clean sheet and mat and smooth them out as far as the middle of the bed. Arrange the other half of the clean sheet and mat in a soft roll and place alongside the other roll at the patient's back. Then roll the patient gently over on the clean sheet. Remove the soiled sheet and mat. Draw the clean sheet and mat over the other half of the bed, tucking in the sheet.

Be sure no wrinkles are under the patient. Wash the soiled mat with soap and water. Dry it in the sun so it will be free of odors.

Keep the bedding under the patient smooth, clean, and dry. Wrinkles in the sheet, crumbs on the bed, or moisture that



Changing the Sheet with the Patient in Bed

(Adapted from Pope's *Home Care of the Sick*)

softens and irritates the skin may cause bedsores. Rub the back twice a day with an alcohol solution—once after the morning bath and once before the patient is made comfortable for the night.

Prevention of Bedsores.—If the skin reddens in any place, wash it twice a day with warm water and soap. Then rub it with an alcohol solution and dust it with a good talcum powder. If bedsores develop, tell the physician at once.

The Physician's Orders.—If a person is dangerously ill, send for the best physician you can get. Follow the physician's orders carefully. To do this, write down the time for giving medicine, the amount of medicine to be given, the kind of food the patient is to have, and any other directions he may give. Keep for the physician a record of what has been given the patient and the time it was given.

Giving Medicine.—When giving medicine, be sure the spoon or the glass is clean. Read the label before and again after the medicine is poured out of the bottle or container. Prepare the medicine exactly according to instructions. Give only as much as directed and at the exact time designated. Shake all liquids before measuring. Cork the bottle immediately after measuring the dose. Pour liquids from the side of the bottle opposite the label and then wipe the bottle with a damp cloth. Keep the bottle out of the patient's sight and out of the reach of children. Keep poisons in a locked closet. It is well, as an additional precaution, to put a pin in the cork of a bottle containing poison.

Precaution against Contagion or against Infection.—Diseases that are communicated from one person to another are said to be contagious or infectious. When the disease is contagious or infectious, great care must be taken to protect other people from the germs. A great deal may be done by killing germs with disinfectants. Disinfect everything used in the sick room. Much of the danger of contagion or of infection may be lessened by keeping the patient screened from flies, by boiling all dishes used by the patient, and by burning all food left on the patient's tray.

Disinfecting Clothing.—Soak for one hour in a carbolic solution all clothing worn by the patient and all bed linen. In making the solution, use 10 tablespoons of carbolic acid to 4 liters of water. It is safer to dissolve the carbolic acid in alcohol before adding it to the water. If carbolic acid is not obtainable, wash the clothing in soap and water and boil thirty minutes.

Disinfecting Excreta.—Germs of many contagious or infectious diseases leave the body with the urine and with the excreta. The contents of the *orinola* should be emptied immediately into a hole dug 1 meter deep in the ground away from the house. Cover the excreta with dry lime or with earth, using enough to absorb all moisture of the excreta.

Disinfecting the Hands.—After attending a patient having a contagious or an infectious disease, the nurse should scrub her hands with soap and water before leaving the sick room and should dip them in alcohol or in a solution of carbolic acid.

Rules for the Sick Room.—Little things that would not disturb a person who is well often annoy a person who is ill. A patient may be relieved of many of these annoyances if the following suggestions are carried out:

Do not let a strong light annoy a patient.

Do not let the patient be exposed to drafts.

Do not keep a light in a sick room at night; if a light is needed, place it in an adjoining room.

Do not whisper in the same room with the patient or where the patient can hear you.

When speaking to the patient, stand where you can be seen.

Do not sit or lean on the patient's bed.
Do not knock against the bed in passing.
Protect the patient from all noises.

It is not a good custom to let a person who is ill receive many visitors. The patient should always be kept quiet. Too much talking tires and weakens the patient and often delays recovery. Instead of visiting the sick, friends may show interest simply by sending flowers or fruit, or by calling at the house only long enough to ask quietly how the patient is. When the patient is convalescent, visitors are welcome and are helpful.

REVIEW

1. Why is a separate room for a sick person desirable?
2. If a separate room is not available, what should be done?
3. What kind of bed is best?
4. Where should the bed be placed?
5. How would you protect the patient from a draft?
6. How should the room be cleaned?
7. How may the room be cooled?
8. Give directions for bathing the patient in bed; for cleaning the teeth; for combing the hair.
9. Tell how to change the mat and the under sheet with the patient in bed.
10. What precautions should be observed in giving medicine?
11. How may friends show interest in the patient without visiting the sick room?
12. When are diseases said to be contagious or infectious?
13. What is a disinfectant?

CHAPTER II

FIRST AIDS

Accidents and injuries which need only a little care at the time frequently occur among children at school or at home. More serious injuries need attention until the doctor arrives to give further care. It is well for every pupil to learn to use in her home the simple ways and means of caring for the lesser injuries.

BLEEDING FROM THE NOSE.—If the nose is bleeding, hold the head erect. Apply cold water to the back of the neck and over the bridge of the nose. This can best be done by using two handkerchiefs. Pinching the nostrils together sometimes helps. If the nose continues to bleed for some time, it may be necessary to plug up the nostril with cotton. Take a piece of cotton, tie a piece of thread around it, and soak it in vinegar, after which twist it gently into the bleeding nostril. When the bleeding has stopped, the cotton should be removed very gently with the aid of the thread.

Earache.—A bit of absorbent cotton stuffed lightly into the ear sometimes stops the pain. Application of dry heat also helps.

Insect in the Ear.—If an ant or a bug gets into the ear, pour a few drops of coconut oil or melted lard into the ear to kill the insect. Then wash out the ear with soapy warm water.

Things in the Eye.—When an insect or a particle of dust gets into the eye, do not rub the eyes no matter how much you feel you must. Rubbing will probably push whatever is there more firmly into the eye. Closing both eyes for a short time often assists the flow of tears, which may wash out the particle. If the tears do not wash it out, moisten a corner of a handkerchief and, with the aid of a mirror, try to wipe the particle out.

If this is not successful, sit in a chair with someone standing behind you. Press your head firmly against the chair or the person. Then let him take hold of the eyelashes and turn the lid back. In this way the surface of the upper lid is exposed, so that whatever is lodged there can be easily wiped off with a piece of clean, soft wet cloth. After the foreign substance has been removed, bathe the eye with a solution of boric acid, which is prepared by dissolving 1 teaspoon of boric-acid powder in ½ liter of hot water. It is difficult to dissolve the powder in cold water.

Black Eye.—Continued application of a hot compress to a bruised eye will scatter much of the blood which causes the darkness in color. If no hot water is at hand, used cold water.

Inflamed Eyelids.—Whenever the eyelids are stuck together in the morning, wash the eyes with a solution of boric acid. Oculists prescribe this treatment for inflamed eyelids.

Stings of Insects.—Honeybees, wasps, and hornets sting if they or their nests are disturbed. The pain that results from a sting is due to a poisonous acid on the stinger. The stinger of the honeybee is barbed; those of the wasp and the hornet are pointed. The bee can sting only once, because it can not withdraw the barbed stinger. By looking carefully, one can see the stinger and can probably remove it by sucking the wound. If the stinger is quickly removed, less poison will be absorbed into the system. The wasp and the hornet can sting as often as they please because their stingers are pointed. Bathe all stings frequently with a solution of common cooking soda and water. If one is badly stung by bees, it is also well to drink a cup of water in which a pinch of soda has been dissolved.

Fainting.—Very sudden fright, an injury, bad air, or weakness sometimes causes fainting. When this happens, the first thing to do is to place the person on the floor or on a bed without a pillow. The patient must have plenty of fresh air. Fainting is caused by insufficient circulation of the blood in the head, and the reclining position helps to send the flow in that direction. A further help is to raise the feet by putting something under them, or to lower the head by letting it hang over the edge of the bed. Loosen any tight clothing and fan the patient. Wipe the face with a cold wet cloth. Rub vigorously the arms and the legs in the direction of the head. Never allow people to crowd around a person who has fainted. Crowding keeps away fresh air, which is often all that is needed to bring one back to consciousness.

A faint does not ordinarily last long. But sometimes consciousness does not return in spite of all you can do. This means something more serious than a faint, and a doctor should be called.

If you should ever feel that you are going to faint, drop the head as low as possible between the knees. This assists the blood to flow to the head.

Fits.—A person having a fit is treated the same as one who has fainted, with the addition that the patient should be protected from injury. Place a rolled handkerchief in the mouth to prevent the patient from biting the tongue.

Deep Wounds.—Deep wounds are caused by nails, often rusty and dirty, as well as by thorns, pins, needles, splinters, glass, etc. They are liable to be more dangerous than other wounds because they do not bleed and are difficult to clean and sterilize. If a part of the penetrating substance is broken off and is buried deep in the flesh, it must be removed.

There is great danger of lockjaw from rusty-nail wounds. The little microbe called the tetanus germ causes it. In such a wound as this the germ finds a good place to thrive. The tetanus germ is found just beneath the surface of the soil and in dust. Therefore, it may be on the rusty nail when it enters the flesh, or it may be pushed into the wound with a bit of dirty skin. If the wound is not kept clean, the tetanus germ may get in at any time.

The first thing to do with such a wound is to clean it with pure water, then with an antiseptic wash, after which it should be gently squeezed so as to make the blood flow freely. Squeezing may cause the germs to come out with the blood. Soak a piece of clean cloth in the antiseptic wash, place it over the wound and bandage it on with a strip of clean cloth. The wound should be watched. If it becomes inflamed, it shows that it has not been well cleaned and it should be opened and cleaned again. Wounds made by rusty nails should be treated by a good doctor. For the antiseptic wash mentioned above, a teaspoon of carbolic acid in a pint of water may be used.

CRAMPS.—Cramps seize one most frequently when in the water and many deaths from drowning are caused by them. Cramps attack good swimmers as often as they attack persons who are unaccustomed to the water. If you have ever had cramps, do not swim far from the shore or out of the reach of prompt help. It is not safe.

A cramp in the leg is very painful. The muscle becomes contracted and forms a bunch or a knot. It sometimes makes one faint. Brisk rubbing will take the cramp out better than anything else. When cramps come in the leg, a good remedy is to stretch the heel out and away as far as possible. If cramps come in the leg while in bed, get out of bed and stand or walk about until the pain leaves.

SPRAINS.—A sprain is the result of straining or of wrenching the ligaments in a joint. Finger, wrist, and ankle joints are often sprained. If the sprain is serious, a doctor should be called; if it is not severe, it can be treated at home. To keep down the swelling, hold the injured joint up to let the blood flow way from it. At the same time, bathe the joint in cold or in hot water. Before bandaging, a little well-directed pressure with the hand will help drive the blood toward the heart.

BURNS.—Air coming in contact with burns causes intense pain. The first thing to do is to exclude the air. Immersing the injured part in water will give relief at once.

Burns are classed according to their degree of severity. First-degree burns cause the skin to turn red; second-degree burns cause a blister; and third-degree burns destroy tissues.

For a first or a second-degree burn, a soft clean cloth soaked in water in which cooking soda has been dissolved, should be laid carefully over the burned part, and this should be covered with a woolen or cotton bandage. Renew the compress frequently until the pain stops. It will be of no benefit unless wet.

For a third-degree burn, an oil made of equal parts of limewater and coconut oil may be used. This should be gently poured over the burned place; then a soft cloth, soaked in oil, should be carefully laid on; and the whole should be covered with a woolen or cotton bandage. If no limewater or coconut oil is at hand, use either castor oil, vaseline, or lard. If the burn is serious, a physician should be called.

CLOTHING ON FIRE.—If your clothing catches fire, lie down on the floor (so the flames may not rise toward the head) and roll over and over. If anyone else is near, he should help you by wrapping a blanket, a rug, or a long coat about you. All of this must be done quickly. The blanket, the rug, or the coat should be wrapped from the head toward the feet, otherwise the flames would be forced toward the face. If the body is badly burned over a large area, pain can be greatly relieved by placing the patient, clothes and all, in a tub of warm water.

ACCIDENTS FROM ELECTRICITY.—Burns caused by electricity are more difficult to heal than others. They are treated just as other burns are, according to their degree of severity. If the shock has caused unconsciousness, the clothing should be loosened and the body should be rubbed until the circulation is restored.

Lightning is one form of electricity. The fear of lightning causes more suffering than the lightning itself. The danger of being hurt in a storm is not great enough to make it worth while for us to be afraid of it. At any rate, fear of lightning does no good.

Girls should not allow themselves to be frightened by a storm, but instead they should take pleasure in watching it. Sound travels at the rate of about 1.6 kilometers in five seconds, so if you count the number of seconds between the flash and the thunder, you can easily determine the number of kilometers between you and the place where the lightning strikes. To busy the mind with such problems is one practical way of keeping out the feeling of fear. It makes the storm interesting.

Certain precautions should be taken in a storm. If you are out in the open, try to reach a building. Do not stand under a tree because a tree is more likely to attract the lightning than a protected object. No one should fly a kite during a thunderstorm, because the wet string may act as a conductor.

BROKEN OR DISLOCATED BONES.—When bones are broken or dislocated, only a surgeon can care for them properly. The injured part should be handled as little as possible and the patient should be kept quiet until a surgeon arrives. Cloths wrung out of cold water and applied to the injured parts will keep down the swelling and will relieve the pain.

POISON.—If a child is poisoned by lye, dilute vinegar or lemon juice with water and give him all he can drink. Give oil or milk to soothe the pain.

It is unsafe to eat berries, unless you know what they are. If you should eat some poisonous plant or berry and should find it impossible to get mustard or salt or even warm water for an emetic, try putting your finger in your throat to induce vomiting. The emetic mentioned above may be made by dissolving 2 teaspoons of mustard or of salt in 1 cup of warm water.

REVIEW

1. Give two ways to stop bleeding from the nose.
2. Give a simple remedy for earache.
3. How should you remove a particle of dust or an insect from the eye?
4. Why should you not rub the eye when you have something in it?
5. How should you treat a black eye?
6. What is a good wash for inflamed eyelids?
7. How may the pain caused by bee stings be relieved?
8. What should be done for a person who faints?
9. What position should you take if you feel that you are going to faint?
10. What should be done for a person having a fit?
11. Why are deep wounds dangerous?
12. What sometimes results from rusty-nail wounds?
13. Where is the tetanus germ found?
14. How should a deep wound be treated?
15. How much water is used with a teaspoon of carbolic acid to make an antiseptic for a wound?
16. What treatment is recommended for cramps?
17. What is a sprain?
18. How may swelling about a sprained joint be checked?
19. Describe a first-degree burn; a second-degree burn; a third-degree burn.
20. How should first and second-degree burns be treated?
21. How should a third-degree burn be treated?
22. What attitude toward a thunderstorm is more wholesome than fear? How can this attitude be cultivated?
23. State two precautions which it is well to take during a thunderstorm
24. How should burns caused by electricity be treated?
25. What is the remedy for lye poisoning?
26. If you should be poisoned by eating a poisonous berry or plant and you could not get an emetic, how would you induce vomiting?

PART V

SEVENTH-GRADE HOUSEKEEPING AND COOKING

Part V

SEVENTH-GRADE HOUSEKEEPING AND COOKING

Chapter I

THE KITCHEN RANGE

If your school kitchen or if your home is equipped with a range, you should be familiar with its use. If you do not know how to operate it, you will waste fuel; if you do not know how to regulate the heat, you will waste food.

You should know the location and use of the fire box, the stovepipe, the dampers, the oven, and the ash pan.

The fire box holds the fuel.

The stovepipe is used to carry off the smoke.

Dampers are used to control currents of air and heat. The front damper admits a draft of air beneath the fuel and allows it to burn more readily. Closing this damper causes the fire to burn more slowly. The slide or check damper admits air above the fuel; opening it causes slow burning. The oven damper is closed to heat the oven because when it is closed heat is sent over and around the oven. This damper should never be closed when the fire is first started.

The oven has iron walls and one or more tight-fitting doors.

The ash pan receives the ashes and should be emptied when there is little or no fire in the stove. Fires are often caused by careless handling and by careless storing of hot ashes.

Building a Fire in the Range.—Remove the ashes. Place a few shavings or a little crumpled paper or a few dry leaves in the bottom of the fire box. Over this put small pieces of wood and then add larger pieces, leaving spaces for air to pass through freely. Put on the lids and open the front and the oven dampers. If the range needs polishing, do it now. Moisten the polish with water and rub it on the stove with a cloth or with a brush kept for this purpose. Light the fire and, while it is starting to burn, polish the stove with a dry cloth or with a brush.

When the fire is burning freely, add more fuel if more is needed. Then close the front and the oven dampers. If a hot oven is needed, leave the front damper open.

Once a month or as often as is necessary, brush the ashes and the soot from the flues back of the oven and under it. There are openings for this purpose.

To preserve the school stove during vacations, clean it thoroughly, polish it, and then rub the outside with a little lard.

KEROSENE STOVES.—Heat from kerosene is less intense than heat from other fuels. Thus more time is needed for cooking when kerosene stoves are used. Place the above where there is no draft. Clean the wicks daily by wiping off the soot with a cloth. Dust other parts of the stove. Refill the tank each day and never allow it to burn empty. Use a good quality of kerosene. Never fill the stove when it is lighted or when a burning lamp or an open fire is near. Do not keep the kerosene can near the stove. After lighting the stove, do not leave it until you are sure it is burning properly.

ECONOMY OF FUEL.—Every housekeeper should accustom herself to the management of her household with as little loss and with as little waste as possible.

Unnecessary consumption of fuel in the kitchen range can be prevented if the stove dampers are regulated so as not to permit fuel to burn faster than is essential.

When using gas or when using kerosene, care should be taken not to light the burner before it is to be used and care should be taken to put out the fire when it is needed no more. The flame should be made as low as possible when boiling food, after the actual boiling has begun. Food is cooking just as fast when it is bubbling slightly as when it is boiling over the top of the kettle.

PRACTICAL WORK.—Examine the range; locate its parts. Build a fire; polish the range; regulate the heat by the use of the dampers. Clean the oil stove if the school has one; fill the tank, observing the precautions given.

CHAPTER II

A FIRELESS COOKER

(From Follow-up No. 20, Bureau of Education Cooking Contest)

WHAT IT IS.—A fireless cooker does not generate heat. It is a retainer of heat. Food can be cooked as well when exposed to low heat for a long time as when it is subjected to intense heat for a short time. A fireless cooker is so built that hot food placed in it will remain hot for a long time.

Good results may be obtained with a homemade fireless cooker. The one described here is suitable when food is cooked with a quantity of liquid, as in cooking rice, stews, boiled vegetables, etc.

A Homemade Fireless Cooker

To Make a Fireless Cooker.—Materials needed—Two boxes, a cooking vessel, a quantity of rice straw or chaff, some closely woven cloth and a smooth, flat slab (about one centimeter thick) of stone or cement, or baked clay—not too large to be placed in the smaller box but as large as the bottom of the cooking utensil.

Procure or make a small box large enough to contain the cooking utensil, which should be a pot (with a cover) for this special use. Then obtain a larger box that will allow spaces about 15 centimeters wide between the sides of the two boxes when the smaller box is placed in the center of the larger box.

Put a 15-centimeter layer of rice straw or chaff in the bottom of the large box, packing it firmly. Place the small box in the center of the large box. Fill the space around it with straw or chaff to the same level as the top of the small box. Pack this firmly. Cover the space between the boxes with strips of cloth to keep the straw in place. Make a flat pillow of rice straw or chaff. It should be at least 15 centimeters thick and should just fit inside the large box. The small box and the packing around it should be entirely covered by the pillow. Both boxes are provided with board covers. Any board from 1 to 2½ centimeters thick will do.

Using a Fireless Cooker.—Prepare the food to be cooked in the usual manner. Place it over a fire as if it were to be cooked. Heat the food until it begins to boil. At the same time, on the same fire, heat the stone. When fuel and stone are thoroughly heated remove from the fire and place the cooking utensil on top of the stone in the box at once. Cover tighly with the lid. Put the straw pillow over it. Completely close the cooker by putting the lid on the large box. Allow the food to cook for several hours. It usually takes four or more hours. Do not open the box to examine the food. Rice put in the cooker at night will be thoroughly cooked for breakfast the next morning. The advantages of a fireless cooker are that the food is better cooked than is usual over an open fire. There is also a saving of from 25 to 50 per cent of fuel. One does not have to watch food cooking in a fireless cooker and is free to do other work in the house or in the field.

CHAPTER III

LAUNDERING

Clothes are washed to make them clean and to improve their appearance. Soap and water are essentials in washing. Bluing, starching, and ironing make clothes more attractive.

Clothes should be washed at least once a week. Storing of soiled clothing for a longer time is insanitary. Damp clothing should be dried before being put into a clothes hamper.

Methods.—Washing may be done by rubbing with the hands, by beating with a paddle, by pounding on a smooth stone, or by rubbing on a washboard.

One can wash clothes in a stream and get them clean if enough water passes through the fibers of the cloth. The use of soap hastens cleaning and the washboard facilitates rubbing. Hot water is seldom used in laundering in the Philippines, but the use of hot water will sometimes make clothes cleaner, will save soap, and prevent spread of disease.

Soft Water.—Water is said to be soft when it contains no dissolved minerals. Rain water is soft. The advantages of soft water lies in the fact that soap suds are easily formed in it, whereas the minerals in hard water prevent the formation of the suds which are necessary to clean the clothes. The first action of soap on hard water is the formation of a sticky substance, and much soap must be used before the suds appear. Soap is thus wasted.

Hard water can be made soft by the addition of ammonia, of borax, or of a very small amount of lye. These substances, called alkalis, must be used carefully or they will make holes in cloth.

Soap.—Soap is considered the best cleaning agent. Strong soap contains much alkali and should be used only for very dirty cotton and linen. Mild soap contains a small amount of alkali and should be used for finer materials and for colored clothes. Rubbing the bar of soap on a garment is an extravagant method of applying soap and often discolors fabrics. It is better to use a soap solution.

A Soap Solution.—For ordinary purposes the soap solution should consist of one bar of ordinary washing soap to 2 or 3 liters of cold water. For making a soap solution, shave the soap, put it in a saucepan with cold water, and heat gradually until the soap is dissolved.

An abundance of suds is necessary for washing. As the suds fall or as they are used up, more suds should be made by adding more soap or by adding more of the soap solution. If an insufficient amount of soap is used, insoluble black specks may be left on the clothing.

Washing Colored Clothes.—White and colored clothes should be washed separately because the processes differ. Wash colored clothes in moderately warm suds; rinse them quickly and hang them wrong side out in the shade to dry. Do not boil colored clothing and do not rub soap on colored material because these may remove the color.

Washing White Cotton and White Linen.—An outline of the plan for washing white cotton and white linen clothes follows:

Heat water.

Make a soap solution.

If any clothes have been soaked, wring them from the water in which they have been soaked.

Wash the clothes in suds in the following order: tablecloths, napkins, and slightly soiled towels, first; sheets and pillowcases, second; underclothing and other white cotton clothing, third; handkerchiefs, fourth; soiled towels, fifth; stockings, sixth.

Wash all of these again in clean suds and wring them.

Boil them in clean soapy water.

Rinse them in clean clear water and wring them.
Rinse them in bluing water and wring them.
Starch the articles needing starch.
Hang all up to dry.

BOILING.—Clothes should be washed until clean before they are boiled, because boiling is intended not so much to remove visible dirt as to destroy germs and to purify and to bleach the clothing. Do not crowd too many clothes into the boiler. First put the clothes in cold water; then heat the water gradually to the boiling point; boil ten minutes.

BLUING.—Bluing whitens clothes and is necessary even when clothes are most carefully washed and rinsed. If clothes are not well rinsed before they are blued, the iron present in some brands of bluing unites with the soap left in the clothing and causes rust spots to appear. Mix the bluing well with the water. Stir the bluing each time it is used; shake out each garment before putting it in the bluing; and (to prevent streaking) leave the garment in the bluing only a few seconds. Clothes receiving too much bluing may be bleached by boiling.

STARCHING.—Two reasons for starching clothes are: (1) a starched garment keeps clean longer than an unstarched one; (2) a starched garment resists moisture and the garment is considered correspondingly more attractive in appearance. Do not starch handkerchiefs, hosiery, towels, and garments worn next to the body. Use thin starch for corset covers, for underskirts, and for dresses. The starch should be worked into the fabric to give the desired stiffness, but the cloth must be kept pliable. Borax and oily substances added to starch increase the gloss and prevent the starch from sticking to the iron.

DRYING.—Clothes should be dried on a line. If garments are laid on the grass to dry, they are likely to become contaminated with harmful bacteria. Very few, if any, bacteria will be collected if clothes are hung on a line.

DAMPENING.—Clothes should be dampened (sprinkled) after they dry. This should be done a few hours before they are ironed. Clothes will mildew if they are sprinkled too long before they are ironed. The sprinkling may be done with the hand or with a small clean broom kept for that purpose. Sprinkle the clothes evenly, but do not make them too wet. Roll them together tightly so the dampness will penetrate. Pack them closely in a clean basket, and cover them with a clean cloth.

IRONING.—The ironing board should be covered with a smooth clean blanket and then a cotton cloth should be tacked or pinned tightly over the blanket. Irons must be clean and smooth. Use paper to clean them and beeswax or salt to keep them smooth. After using beeswax, wipe the iron off with a piece of cloth.

Coarse towels should be ironed first because the iron becomes smoother with use. Starched pieces should not be ironed until the irons have become very hot.

Iron first the parts of a garment which muss the least and the parts which dry the quickest. Hang the ironed clothes up; do not fold them until they are thoroughly dry.

Iron tablecloths when they are very damp to give them a glossy finish. Pull the tablecloth straight and fold it through the center with the right side out, with the selvages together, and with the ends even. Then lay it lengthwise on the board with the fold to the left. Iron one side until partly dry. Then turn the cloth over and iron the other half. Fold and put away. Do not press across folds.

Fold napkins lengthwise, putting selvages together; pull smooth, then open and iron, first on the right side, then on the other side. Fold in the center and press the crease in.

Traycloths and centerpieces should have the edges and the corners even.

Proper Position for Ironing

When ironing underwear, iron the trimming first; then the bands and the sleeves.

A handkerchief should be very damp when ironed. Fold it once and stretch the hems even; then unfold and iron on both sides. Fold, but do not crease with the iron.

Iron hosiery on the wrong side with a slightly warm iron, or leave it unironed if you wish.

When ironing a skirt, slip the skirt over the ironing board. Cover the floor underneath with paper or with a cloth. Iron the hem of one width or gore until dry. Then iron the upper part, being careful with the gathers or tucks at the waist. Iron the next width in the same manner; then, the seam between. When you have finished, remove the skirt from the board, and press the waistband. Iron petticoats in the same way, ironing the flounce first.

Iron embroidery and laces on the wrong side. Iron tucks first on the right side and then on the wrong side. Iron with the thread of the goods. Iron calicoes on the wrong side and white goods on the right side.

PRACTICAL WORK.—Wash, blue, starch, sprinkle, and iron a few clothes, following the directions given.

Use this recipe for making a *thick* starch:

½ cup laundry starch
½ cup cold water
1 liter boiling water
½ to 1 tablespoon borax
¼ tablespoon lard or butter or turpentine or ½-centimeter cube wax or paraffin.

Dissolve the starch in the cold water; stir slowly into the boiling water. Add the borax and the lard (or the butter, turpentine, or the paraffin); cook fifteen or twenty minutes. Thorough cooking of starch is desirable because it increases the penetrability of the starch and it decreases its tendency to stick to the iron.

For making a *thin* starch, the recipe above may be used if *3 liters of boiling water* are used instead of *1 liter of boiling water*.

REVIEW

1. Why are clothes washed?
2. Are you satisfied with the sanitation of the place where your clothes are washed?
3. When is the best time to remove stains from clothing?
4. Is the water in your locality soft or hard?
5. How can hard water be softened?

6. How is soap best applied?
7. What is the advantage of using hot water in washing clothes?
8. How should colored clothing be washed?
9. Why should clothes be boiled?
10. How should clothes be boiled?
11. Why are clothes blued?
12. How may streaking be prevented in bluing?
13. What sometimes causes rust spots on clothes?
14. How may an excess of bluing be removed from clothing?
15. Why is clothing starched?
16. What articles should not be starched?
17. Tell how to cover an ironing board.
18. Give directions for ironing a skirt.

To the Teacher.—One or more lesson periods might be spent teaching the girls to iron. Girls may be appointed to bring to school certain articles to be ironed in class. Before class time, sprinkle the articles and during class time, teach the girls to iron, to fold, and to hang them up. Let the girls take turns doing the work.

Chapter IV

LAUNDERING EMBROIDERY

To the Teacher.—If the laundering of embroidery has been taught in the embroidery classes, one lesson period should be spent on a general review of the instructions on this subject in the Bureau of Education Manual on Embroidery; but if the laundering of embroidery has not been taught in embroidery classes, two or three lesson periods should be spent teaching it.

Chapter V

CARE OF FOOD AND PREVENTION OF WASTE

Spoiling of Foods.—Every housekeeper should know how to care for food before and after it is cooked. Lack of such knowledge causes waste. Most foods spoil easily. Vegetables and fruits lose water, wilt, and become unfit to eat; flour and meal become musty; bread and cake mold; eggs, fish, and meat become tainted; and fats grow rancid. Some foods (such as milk) sour.

The spoiling of food is due to micro-organisms (bacteria). If fresh sound food is bought and if it is kept cool and clean, the growth of the bacteria will be checked and, hence, spoiling will not take place readily.

Keeping Foods from Spoiling.—Spoiling can be prevented by proper selection, by proper handling, and by proper storing of foods.

Keep rice, meal, flour, and sugar in tightly covered jars. Use small jars or bottles for soda, for spices, and for other articles bought in small quantities. Label all jars and bottles. Arrange jars and bottles so that each one can be reached conveniently. Keep tea and coffee in tightly covered tins. Store fats in a cool place away from light and air.

Do not use tins for moist articles or for articles which gather moisture. Do not keep anything in paper bags, because they tear easily.

Do not open cans of milk until the milk is required for use and do not leave milk in the cans after they are opened. Condensed milk may be left in the can provided that only two small holes have been punched in the top. All dishes in which milk is kept must be washed, scalded, and dried in the sun; otherwise, the milk will sour quickly. Milk may be kept cool by wrapping the container in a wet cloth and placing it in a draft. Souring of fresh milk can be delayed by heating the milk and by cooling it quickly.

Keep vegetables in as cool and as dry a place as possible. A short time before they are used they should be soaked in cold water for a while.

Handle fruits as little as possible and keep them as dry and as cool as possible. They should be examined often and all fruits that show the slightest signs of spoiling should be removed. To prevent lemons from drying out, keep them immersed in cold water in a covered jar.

Examine meat and fish as soon as they come from the market. Clean the fish and wipe the meat well with a damp cloth and then put them on plates in a cool dark place. Meat in danger of spoiling can be kept longer if cooked a little.

Keep bread in a covered box with sides made of fine wire screen. Do not wrap bread in a cloth.

Do not keep eggs near strong-smelling foods because eggs absorb odors. To keep the yolk of an opened egg for a few hours, cover it with cold water; to keep the white, cover it up and put it in a cool place.

Cooked food should not be shut up tightly while hot. It is better to cook most foods in small quantities and to have just enough to go round than to have large quantities left over.

HOW FOOD IS WASTED.—Food is wasted (1) by throwing away left-overs (food left after a meal); (2) by selecting unwisely; (3) by preparing carelessly or improperly; (4) by serving too many kinds; (5) by failing to provide variety; (6) by eating too much; (7) by eating at times when fatigue or when anxiety retards digestion. Food is wasted in its preparation when parts that might be used for food are discarded. Vegetables and fruits are wasted by thick paring.

Serving of too many courses and eating between meals should be discouraged.

ECONOMY IN BUYING.—Select foods for their nutritive value. Do not buy foods out of season. Do not buy in too large quantities.

When buying food, consider the food value obtained for the price paid. One may pay widely varying prices for different kinds of food having the same food value. Meat is costly protein. Beans and mongos contain much protein, cost much less than meat, and may often be used as substitutes for the latter.

Some fruits and vegetables are high in price and at the same time are low in food value. The housekeeper should study prices and should select the cheaper varieties of food having the same food value.

CHAPTER VI

PRESERVING FOODS

Preserving includes various methods of treating foods so that they may be kept for a long time.

When you go into a grocery store, observe the variety of preserved foods offered for sale and find out what countries furnish them.

METHODS OF PRESERVING FOODS.—Foods are preserved (1) by excluding air, as in the preservation of eggs in water glass or in clay; (2) by salting, as in the preservation of ham, bacon, fish; (3) by drying, as in the preservation of fish, meat, raisins, vegetables, fruits; (4) by sugaring, as in the preservation of fruits, berries; (5) by canning, as in the preservation of vegetables, fruit, meat, fish; (6) by pickling, as in the preservation of cucumbers, onions, fruits; (7) by freezing, as in the preservation of meats; (8) by cold storage, as in the preservation of milk, eggs, butter.

All preserving or canning should be done when the particular food to be preserved or canned is abundant and when it is in good condition.

Fresh fruits and fresh vegetables are obtainable throughout the year in the Philippines. Consequently, there is not the same need for home preserving of fruits and of vegetables as in some other countries. However, any excess of food should be preserved instead of being allowed to waste.

Pickles are relishes and are classed with foods not easily digested. However, no real harm results from a moderate use of them by healthy adults. Children should not be allowed to eat them.

Jams are not so wholesome as canned fruit because of the large amount of sugar they contain. They should be served only occasionally and in small amounts.

CANNING.—Knowledge and care are necessary in canning. The food to be canned must be sterilized; that is, all living organisms or bacteria in the food must be destroyed by heat. Everything used in the hot-pack method of canning (discussed below) must be sterilized.

If the utensils and the food are free from bacterial life but if air is allowed to reach them, the bacteria in the air contaminate them again. Therefore, as soon as the sterilized food has been placed in the sterilized jar, it should be sealed to keep out the air. In canning, it is necessary to work quickly in order not to allow bacteria to collect in the sterilized materials.

When jars are taken from the sterilizing kettle, they are very hot. If they are set on a cold surface or if they are placed in a draft or in cold water, sudden contraction caused by contact with the cold will cause them to crack. Therefore, it is necessary to set them in a pan containing a little hot water.

Even though the cover fits tightly on a jar when it is hot, it may be too loose when the jar cools because of the expansion of glass when it is heated, and the contraction when cooled. Test covers for their tightness by inverting jars while they are cooling. If the covers are loose, some of the contents of the jars will leak out. In this case, the cover must be screwed on tighter.

It is best to can fruit and vegetables as soon as possible after they are picked. Fruit is better for canning when underripe than when overripe. Vegetables should be firm, full-sized, and free of blemishes.

HOT-PACK METHOD OF CANNING TOMATOES.—Most of the directions given here have been taken from Bertha J. Austin's *Domestic Science*. The materials used are tomatoes, water, and salt. The utensils needed are a pint jar and a cover, a rubber ring for the jar, a dishpan, a saucepan, a sterilizing kettle, a paring knife, a fork, a large bowl, and a spoon.

1. Fit the rubber on the jar; fill the jar with water; screw on the cover and invert the jar to see that it does not leak. If it leaks, try another cover or another rubber. Keep on until an air-tight jar is found.

2. To sterilize the jar: Wash the jar and the cover in strong, soapy hot water; rinse and fill the jar with cold water; place it on a cloth in the sterilizing kettle. Surround the jar with cold water which should be gradually heated to the boiling point. The cover may be placed in the sterilizing kettle, but in such a way that it does not touch the jar. The rubber must not be boiled, because boiling is injurious to rubber, but should be tested for elasticity and for strength and should be dipped in hot water just before being used. The jar should remain in the water fifteen minutes after the water boils. Several jars may be sterilized in one kettle if placed so that they do not touch each other and if so placed that they rest on a cloth or on a rack of wood instead of on the bottom of the kettle.

3. Wash the tomatoes.

4. Pour boiling water over the tomatoes to loosen the skins.

5. Remove the loosened skins and the stems, and quarter the tomatoes. Place the quartered tomatoes in the saucepan with very little water. Add 1 teaspoon of salt to each liter of tomatoes. Heat the mixture until it boils, stirring it as little as possible.

6. Pour a little hot water into a pan; take the jar from the sterilizing kettle; dip the rubber in hot water and place it on the jar; with the aid of a sterilized funnel, fill the jar to overflowing with the boiling tomato, using boiling water if there is not enough of the tomato; place the sterilized cover on the jar and seal by screwing or by clamping. If a screw cover is used, it should be tightened after the jar cools. Invert the jar while cooling.

7. When the jar has cooled, wipe it on the outside.

Canning Fruit.—Select firm fruit for canning and be sure it is not overripe. In canning fruit, the fruit is cooked with a sirup of sugar and water, after which it is put in sterile jars and sealed. Acid fruits need a thick sirup; sweet fruits, a thin sirup. For a thin sirup, use 1 cup of sugar to 2 cups of water; for a thick sirup, use 1 cup of sugar to 1 cup of water. Boil the sirup about ten minutes and then skim it. Add the fruit to the sirup and cook until done.

Jelly Making.—Jellies are made from *acid* fruits which contain *pectin*. No jelly can be made from fruit that does not contain both acid and pectin. Pectin is a gum-like substance found in the juice, in the skin, and in the core of certain fruits just before or immediately after they are ripe. To detect the presence of pectin add 1 tablespoon of cooked fruit juice to the same quantity of absolute alcohol, mix thoroughly, and cool. Pectin then appears in the bottom of the dish in a gelatinous mass which may be gathered up in a spoon. Cooked juice shows much more pectin than raw juice.

Before starting to make jelly, test the fruit juice for pectin and if you find it lacking, proceed as follows: Soak in clean cold water the white fibrous membrane found between the rind and the pulp of either oranges or lemons. Boil this membrane in the water in which it soaked; strain and add to the fruit juice.

Presence of acid may be detected by tasting; if it is lacking, add lemon juice.

The best jelly fruits in the Philippines are the guava, the santol, and the pineapple. The fleshy calyxes of roselle are also used for making jelly.

Extract juice from very juicy fruits by cooking the fruit slowly in a covered kettle, using just enough water to prevent scorching. Stir occasionally with a wooden spoon and, when done, pour into a jelley bag wrung out of hot water. Drain the juice from the bag into an enameled pan. The pulp should not be squeezed. Cut less juicy fruits, like santols and guavas in small pieces, including the skins and the seeds; put the pieces in the kettle, barely cover them with water, and cook slowly.

Make a jelly bag from a piece of doubled cheesecloth or from a piece of some firm cotton material about ¾ meter square. Fold two diagonally opposite corners of the material together and sew up one of the two open sides of the triangle. When the bag is opened, it is shaped like a cone. Instead of making the bottom of the cone-shaped bag pointed by sewing in a straight line, it is better to make it round by sewing in a curved line.

The sugar is heated by placing it in a shallow pan in an oven, stirring it frequently to prevent melting.

Not more than a liter of juice should be cooked at one time. Put the juice in a saucepan and heat it. Skim off the film that collects on the surface. When the juice is half done, add the sugar and cook the mixture slowly until the sugar dissolves, after which the mixture should be boiled ten minutes.

To test, pour a small amount of the sirup on a cold plate. If cooked enough, the juice will stiffen into jelly in a few minutes. The sirup may be tested more quickly by pouring from a spoon. If it breaks off in drops or flakes, it is done.

When it is done, pour it into small sterilized jars and seal. Place the jars of jelly in a cool, dark, dry place.

Jellies are more digestible than preserves and jams because they contain less sugar.

Preserves Jelly Canned Fruit

PRACTICAL WORK.—Make jelly from some fruit grown in your locality. Make jam or marmalade. (See recipes.)

REVIEW

1. What is meant by preserving food?
2. Name some of the methods of preserving foods.
3. Which of these methods are used in your home town?
4. What can you say of pickles as a food; of preserves and jams as foods?
5. What does *sterilized food* mean?
6. Tell how to sterilize a fruit jar.
7. Why are fruit jars inverted while cooling?
8. Why should we sterilize all utensils used in the hot-pack method of canning?
9. Name some of the best jelly fruits in the Philippines.
10. What is pectin?
11. Give a test for pectin.
12. What kind of fruit is necessary for the making of jelly?
13. Tell how to make a jelly bag.
14. Tell how to heat the sugar for jelly.
15. What is frequently the cause of failure in jelly making?

CHAPTER VII

COLD-PACK METHOD OF CANNING

The cold-pack method of canning is considered better than the hot-pack method. In the United States, it is used in most domestic-science classes and in the homes of progressive housekeepers. In the hot-pack method there is always the danger of introducing harmful bacteria into the mixture on spoons, in jars, or through exposure to the air. The cost and labor of canning is often wasted because the fruit or vegetable spoiled as the result of the presence of these bacteria. Such vegetables as corn, peas, and beans are difficult to keep when canned by the hot-pack method.

HOMEMADE OUTFIT FOR THE COLD-PACK METHOD.—A vessel with a close-fitting cover is needed to hold the jars or cans. A false wooden bottom or a wire rack is needed to allow a free circulation of water under the jars. The wooden bottom may be of perforated boards or of strips of bamboo woven together.

The cold-pack process consists mainly of subjecting the filled jars to the heat or to the steam of boiling water for a prescribed length of time. The process of removing the jars from the sterilizer may be made less difficult by using a jar lifter. A convenient lifter may be made out of a pancake turner. Bend the blade of the turner until it is at right angles to the handle. The upturned portion of the blade should be about 7 centimeters long. To use the lifter, slip the upturned blade under the bottom of the jar and lift straight up.

JARS.—Any type of jar that seals perfectly may be used. Glass jars may be used indefinitely, but new rubbers should be used each time. Be sure that no jar is defective. Test the jars as in the hot-pack method. Test new rubbers for elasticity and for strength; if they are not strong and elastic, air is sure to get into the jar and the contents will spoil in a short time.

BLANCHING.—Blanching consists of plunging vegetables, fruits, etc., into boiling water and afterwards into cold water. Spinach and other greens are not blanched by plunging them into boiling water, but they are blanched by steaming them in an ordinary steamer or by suspending them in a tightly closed vessel above boiling water.

Blanching removes strong flavors and odors. It causes shrinkage and thus one can put into a jar a larger quantity of the mixture than if it had not been blanched. The plunge into cold water hardens the pulp and causes retention of original coloring. After the plunge into cold water, dry the vegetable or the fruit by placing it between two clean cloths or by exposing it to the sun.

Directions.—Select sound vegetables and sound fruits. If possible, can them the same day they are picked. Wash, clean, and prepare them. Have a kettle of boiling water ready on the stove. Put the vegetables or the fruits in a thin cloth or in a wire basket; blanch them by dipping the cloth or the basket containing them first in boiling water and then by plunging them into cold water.

The time that the vegetable or the fruit should remain in the boiling water varies. (See table on page 134.) When the time is up, remove the cloth or the basket containing the vegetables or the fruit from the boiling water and plunge them a number of times into cold water to harden the pulp and to check the flow of coloring matter.

The jars should be thoroughly clean. It is not necessary to sterilize them before filling them because in the cold-pack process both the inside of the jars and the contents are sterilized. To avoid breakage, heat the jars slightly before filling.

Pour the fruit or vegetable into the jars, leaving a space ½ centimeter deep at the top.

To vegetables add 1 teaspoon of salt to each quart jar and add enough boiling water to fill the jar. To fruits add enough sirup to fill the jar.

With glass jars use new rubbers. Fit the rubber on and put the cover in place. If the jar has a screw top, do not screw too tight; use only the thumb and the little finger to tighten it.

This makes it possible for steam generated within to escape, and thus prevents the jar from breaking. If a glass-top jar is used, snap only the top bail, leaving the lower bail loose during sterilization. Tin cans should be completely sealed.

Place jars (filled and capped) on the rack in the sterilizer. Have the water in the sterilizer at least 2 centimeters above the tops of the jars; the water in boiling down should never be allowed to fall to the level of these tops.

Begin to count the time for sterilizing when the water begins to boil. (See table on page 134.) At the end of the period remove the jars from the sterilizer; fasten the covers on tight at once. Turn the jars upside down to test for leakage; leave in this position until cold; then store in a cool, dry, dark place. Do not place the jars in a draft while cooling, because they may break if suddenly chilled.

Vegetable Greens.—Sort and trim cabbage and all leaves used for greens; remove the wilted and the damaged leaves; remove the stems. Blanch greens by steaming them from fifteen to twenty minutes and then by plunging them into cold water. Then pack them tightly in the cans; add 1 teaspoon of salt; fill the crevices with hot water and sterilize two hours.

Root or Tuber Vegetables.—Wash and scrub carrots, turnips, radishes, beets, and sweet potatoes. Scald them long enough to loosen the skins. Plunge them immediately into cold water (just for an instant); then remove the skins. Pack the vegetable (whole or cut in cubes) into the jars. Add 1 teaspoon of salt to each quart jar and fill the jars with boiling water. Screw on the tops lightly and sterilize for ninety minutes. Remove the jars from the kettle, tighten the covers, invert, cool, and store.

Tomatoes.—Scald tomatoes long enough to loosen the skin. Then plunge them into cold water; core and skin them; pack them (whole) in cans. Do not put hot water in the jars, but add 1 teaspoon of salt to each quart jar. Seal loosely and sterilize for thirty minutes. Tighten the covers; invert the jars to cool and to test for leakage.

Corn.—After blanching, cut the corn from the cob with a sharp knife. Pack the sliced corn in jars; add 1 teaspoon of salt to each quart jar and fill the jar with hot water; sterilize for three hours.

Squash.—Cut squash in small pieces; put in hot water for ten minutes; then dip in cold water; pack in jars; add 1 teaspoon of salt to each quart jar and fill each jar with boiling water. Sterilize for ninety minutes.

Pod Vegetables.—Put lima beans, string beans, peas, and okra in boiling water from two to five minutes; then plunge them into cold water; pack them in jars; add 1 teaspoon of salt to each quart jar and fill the jars with boiling water. Sterilize for two hours. Remove from the kettle; screw the tops on securely; invert the jars to cool and to test for leakage.

Sirups.—Boiling sirups are used to fill the jars when canning fruits. When making the sirups, use 3 cups of sugar to 2 cups of water. To make a thin sirup, boil only until all the sugar is dissolved. To make a thick sirup, boil until the sirup is sticky when cooled on a spoon.

SOFT FRUITS.—Ripe mangoes, pineapples, lanzones, and strawberries come under this head. Pare, peel, seed, or stem them, as the case requires; pack them immediately in jars. Fill the jars with boiling thin sirup; screw the covers on lightly. Sterilize for sixteen minutes. Remove from the sterilizing kettle, tighten the covers; invert the jars to cool and to test for leakage; wrap in paper and store in a cool, dry, dark place.

HARD FRUITS.—Santols, Chinese pears, and other hard fruits come under this head. They should be blanched by putting them in boiling water for two minutes and then by plunging them quickly into cold water. Core, pit, or remove the skins, as the fruit requires; quarter or slice the fruit. Pack in cans or jars; fill the cans with boiling thick sirup. Put tops on and sterilize for twenty minutes. Remove the jars from the kettle; tighten the covers; invert to cool and to test for leakage; wrap in paper and store.

SLICED ORANGES.—Divide oranges into their natural sections or slice them with a knife. Do not blanch them. Pack them closely in jars; fill the jars with a boiling thin sirup. Sterilize the jars partly sealed for ten minutes. Remove the jars from the kettle; tighten the covers; invert the jars to cool and to test for leakage; wrap in paper and store.

PRECAUTIONS.—Care must be used in sealing. Mold is liable to develop if the sealing is defective. It is unsafe to keep jars in a damp place where the rubber may decompose.

Guard against improper or inadequate blanching. Follow the instructions for blanching carefully.

Avoid careless packing. Pack vegetables and fruits closely. If the packing is not carefully done, shrinkage may take place during sterilization.

Do not let the jars remain too long in the sterilizing kettle. If sterilization continues too long, the product will shrink. Watch the time and follow the time-table on page 134.

It is often found on opening a can of beans, peas, or corn, that *flat sour* has developed. This may be avoided by using only those vegetables which have not been picked more than five or six hours and by canning only one jar at a time, placing each jar in the sterilizer as it is packed.

Time-table for Blanching and for Sterilizing

Vegetables	Blanching	Sterilizing
	Minutes in Hot Water	*Minutes*
Greens	15 to 20	120
Cabbage	15 to 20	120
Carrots	5 to 8	90
Beets	3 to 8	90
Turnips	5 to 8	90
Radishes	5 to 8	90
Sweet potatoes	5 to 8	90
Tomatoes	To loosen skins.	90
Green corn	5 to 15	180
Lima beans	2 to 5	120
String beans	2 to 5	120
Peas	2 to 5	120
Okra	2 to 5	120
Squash in cubes	10	90
FRUITS		
Ripe mangoes	None	16
Lanzones	None	16
Pineapple	None	16
Strawberries	None	16
Santols	2	20
Chinese pears	2	20
Oranges	None	10

PRACTICAL WORK.—If possible, each girl in the class should can one jar of some vegetable or fruit by the cold-pack method. The jar should be labeled with the name of the contents, with the name of the girl who did the canning, and with the date of the canning.

CHAPTER VIII

STERILIZING AND PASTEURIZING MILK

Sterilized milk is milk which has been kept at boiling temperature for fifteen minutes.

Pasteurized milk is milk which has been heated in sterile bottles in a pan of water kept at a temperature of 68° C. (155°F.) for thirty minutes and then cooled quickly.

Pasteurization can be done at home if the following directions are followed.

Put a kettle containing 4 liters of water on the stove. When the water is boiling vigorously, remove the kettle to a table and allow it to stand uncovered ten minutes. Then put the loosely-corked bottles of milk in the water, cover the kettle, and allow it to stand covered thirty minutes. At the end of this time, remove the bottles, cool them rapidly under running water, and put them in the ice box until needed. Do not uncork the bottles until time to use the milk. If you have no ice, keep the bottles cool by letting them stand where cool air may pass around them or keep them cool by placing them in pure cold water.

PRACTICAL WORK.—Sterilize a small quantity of milk. Pasteurize a small quantity of milk. Use the milk in preparing some article of food. (See recipes.)

CHAPTER IX

FRYING AND SAUTÉING

Frying is cooking by immersion in hot fat deep enough to cover the food.

Sautéing consists in cooking food in a small amount of hot fat and in turning it over while it is cooking.

TEMPERATURE OF FATS.—To obtain proper results in frying and in sautéing, it is necessary to have the fat at the right temperature before any article is put in it. To determine temperature of fat, it is best to use the following bread tests:

1. If a 2½-centimeter cube of bread or a few grains of rice cooked dry dropped in smoking hot fat turn golden brown in sixty seconds, the fat is hot enough for uncooked mixtures, such as doughnuts, fritters, etc.
2. If a 2½-centimeter cube of bread or the rice dropped in smoking hot fat turns golden brown in forty seconds, it is enough for cooked mixtures, such as fish balls, croquettes, etc.

If the fat is not hot enough, the food absorbs much of it and becomes unwholesome. The temperature of the fat used for uncooked articles (as fritters or doughnuts) must be a little lower than the temperature of the fat used for cooked articles (as croquettes) so that they may have time to cook thoroughly before being browned. Overheating of fat ruins it for frying purposes because, after it has once been overheated, it will never again brown properly. When food is put in fat to fry, it cools the fat rapidly. Therefore, too many articles should not be put in at one time and the fat should be reheated before another batch of articles is put in it. Articles cooking in fat should not be allowed to touch each other.

CAUTIONS.—In deep frying, lower the food into the fat with a skimmer or with a spoon because hot fat sputters when cold or watery substances are put in it, and one may be burned by the flying particles of fat. Smoking hot fat is much hotter than boiling water. Keep a pan of clean sand near by to pour into the fat if it blazes. Never pour water into hot or into blazing fat.

PRACTICAL WORK.—Make rice or ubi croquettes, banana fritters, and doughnuts. (See recipes.)

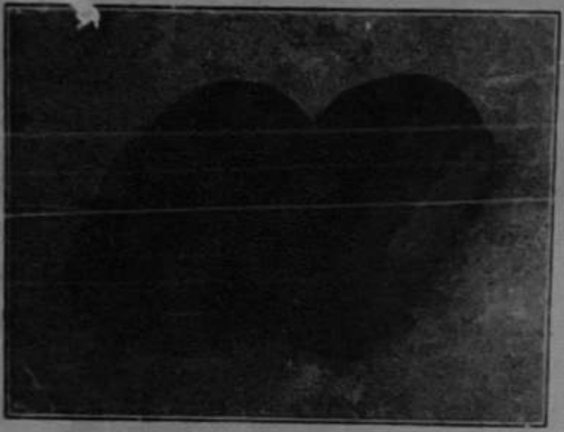
REVIEW

1. Why should the temperature of the fat for rice croquettes be a little higher than the temperature of the fat for doughnuts?
2. Tell how to test the temperature of the fat used in frying or in sautéing.
3. What makes doughnuts puff up and become light?
4. How would you put out a fire of blazing fat?

CHAPTER X

BREAD MAKING

Filipinos are fast learning to use bread. Bakeries which offer for sale many kinds of bread are now found in many towns. The products of these bakeries and the methods of handling the bread in them, however, are not always the best.



Bread

MATERIALS.—The materials used for making bread are flour, liquid, salt, lard or some other fat, yeast, and a small amount of sugar. The salt flavors the bread; the lard or fat makes it tender; the yeast makes it rise; and the small amount of sugar used is put in the yeast to hasten the rising.

Wheat flour is most often used for bread because wheat is the only grain containing the right proportion of gluten (a sticky protein) which is an essential for light spongy bread.

Gluten may be separated from the starch in wheat flour in the following manner:

Place a piece of cheesecloth containing 1 tablespoon of wheat-flour dough in a bowl of water. Wash all the starch possible out of the flour, changing the water several times. The gray sticky mass left in the cheesecloth is gluten.

Good flour feels dry, rather than moist. If it is at all sour or musty, it is unfit for use.

Corn meal does not keep as well as flour. It grows rancid quickly because of the oil it contains.

Tikitiki (rice bran) and banana flour mixed with wheat flour make good bread. (See recipes for the use of banana flour.) If the tikitiki contains no grit, it may be mixed only with wheat flour (one third tikitiki to two thirds flour). It is claimed that the use of bread containing tikitiki will prevent beriberi.

Bread may be made from coconut meal, which is obtained by grinding fresh dried coconut meat.

Yeast is a tiny one-celled plant which, when planted in starchy or in sugary substances, grows very rapidly and forms a gas like that formed by baking powder. This gas causes dough to rise and to become light. When the dough is sufficiently light, it is baked and the life of the yeast is destroyed. If the rising continues too long, the bread becomes sour. Yeast plants grow best at a temperature of from 21° to 24°C. (70° to 85°F.) They may be killed by pouring very hot water on them.

Potato yeast is made from a mixture of potatoes, sugar, a small amount of hops, and water. Excellent bread may be made by using potato yeast as a leavening. Tuba may also be used as a leavening for bread.

YEAST BREAD MORE WHOLESOME THAN QUICK BREAD.—Yeast bread is more wholesome than any of the quick breads. However, the indigestibility of quick breads may be partly overcome if they are thoroughly baked and well masticated. Yeast bread is suitable for constant use, while quick breads are recommended only for occasional use.

A Slice of Bread   A Plate of Bread   Slices of Bread   Slicing Bread

Practical Work.—It may be difficult to find time enough to make yeast bread at school, but each girl should make, if possible, at least one loaf under the direction of the teacher.

Make potato yeast; with this as a starter, make bread.

Make bread, using some of the flour substitutes. (See recipes.)

Chapter XI

SUGAR

Sugar for table use is made from sugar cane or from sugar beets. Sugar made from beets is the same as that made from cane. Sugar, like starches and fats, furnishes the body with fuel for heat and for work. When eaten in excess, it may be stored as fat or it may cause indigestion. Sugar should therefore be used (preferably at mealtime with other food) in small quantities.

Honey is the purest natural form of sugar. Because of its purity, it is often used for medicinal purposes.

Making Sugar from Cane.—The juice of sugar cane is boiled to a thick sirup. As this sirup cools, part of it is converted into brown crystals. When the brown crystals are removed, molasses is left. The crystals are made into either brown sugar, granulated sugar, block sugar, or powdered sugar.

Refining Sugar at Home.—Cakes of dark brown sugar sold in the market may be refined at home as follows:

Put the cakes in just enough water to dissolve them and place over a fire. Mix the white of an egg in ½ cup of cold water and stir into the sirup while it is being heated. When the sirup boils, skim and strain it, after which put it back over the fire in a clean vessel. Boil it again, stirring it constantly, until a bit dropped in cold water becomes hard. Then pour it into a greased dish to cool. When cold, put it in a cloth or in a mortar and pound or grind it to a powder, after which sift it.

Practical Work.—Refine sugar, following the directions above. Make candy, choosing the recipes which can be conveniently used at school.

Chapter XII

ICE CREAM AND WATER ICE

Ice cream and water ice are cooling and refreshing. When eaten slowly, they are agreeable and nourishing to the sick.

Ice cream contains cream (or eggs and milk as a substitute for cream) to which sugar and flavoring are added. Water ices contain water, sugar, and fruit juices.

These mixtures are frozen by the use of crushed ice and salt. The salt and the ice together form brine which is colder than ice.

Cream should be highly sweetened and highly flavored because, during the freezing process, some of the sweetening and some of the flavoring is lost. However, care should be taken not to make the cream too sweet.

It is dangerous to eat ices which have been carelessly made.

FREEZING CREAM.—When freezing cream, follow these directions carefully:

Scald and cool the can, the cover, and the dasher of the freezer.

Fit the empty can into the socket in the bottom of the freezer and put in the dasher.

Pour the mixture to be frozen into the can, filling the can only two thirds full because the mixture expands as it freezes.

Fit the cover on the can. Adjust the crank and turn it a few times to be sure it fits.

To crush the ice place it in a sack or bag; place the bag on stone or on something hard and, with a mallet or with a hammer, pound it until finely crushed. The finer the ice, the better it is for freezing the mixture.

Pour the ice into a pan and mix it with coarse salt. One part of salt to three parts of ice is used for freezing cream. This proportion makes a smooth-grained cream. The greater the amount of salt, the quicker the mixture will freeze, but too much salt causes the cream to be coarse-grained. Equal parts of ice and salt are used for water ices.

Fill the space between the can and the bucket with enough ice and salt to come a little above the mixture in the can.

Turn the crank slowly at first. As the mixture begins to stiffen, add the fruit, if it is to be used for flavoring, and increase the speed of the crank.

Add more ice and salt when necessary. When the ice begins to float, remove the cork in the side of the bucket and draw off the water.

When the mixture has thickened until is quite difficult to turn the crank, wipe off the top of the can to prevent salt from getting into the cream.

Raise the crank, remove the cover, and lift out the dasher, scraping it off. Scrape the cream from the sides of the can and pack the cream down in the can.

Put a cork in the hole in the cover and fit the cover on the can.

Draw off the salt water around the can through the hole in the side of the bucket. Repack the bucket with ice and salt. Cover the freezer with a clean thick cloth and let it stand for at least an hour before serving.

Cleaning the Freezer.—After using the freezer, wash and scald the can, the cover, and the dasher. Dry them thoroughly before putting them away. Take out the salt left in the bucket, dry it, and put it away for future use. Wipe the crank and the bearings well. Scald the bucket inside and outside, dry it thoroughly, and set it away.

Freezing Cream without a Freezer.—If a freezer is not available, a tin vessel (with a cover) set within another vessel will answer the purpose. Fill the space between the two vessels with ice and salt. Turn the inner vessel back and forth by the handle. Take off the cover occasionally to scrape the cream from the sides and to beat the cream.

A small quantity of ice cream may be made in a baking-powder can. Test the can for leakage before using it.

Practical Work.—Make ice cream. Make a water ice. Make ice cream in a baking-powder can.

REVIEW

1. Give directions for freezing cream; for making water ice.
2. What proportion of ice and salt is used for freezing cream; for making water ice?

CHAPTER XIII

PLANNING MEALS AND MAKING MENUS

Plan simple, nourishing meals which have the greatest food value for the least money. When planning meals keep in mind the cost, the tastes of the individuals to be served, the time required for preparation and for cooking. Be sure to use plenty of green vegetables and fruits. Selection of a dessert depends on the other dishes served. Fresh fruit, with or without small sponge cakes, makes a pleasing dessert for a meal containing plenty of meat and vegetables. Puddings made with eggs and with milk may supplement a meal which contains little meat.

Prepare menus and bring them to school for discussion in class. Let the teacher select some of the best ones to be used on days appointed for the cooking and for the serving of meals.

MENUS FOR PICNICS.—Any one of the three menus below may be used for a picnic lunch:

1. Chicken sandwiches, pickles, small sponge cakes, fresh fruit, homemade candy, and chocolate or lemonade.
2. Bread-and-butter sandwiches, stuffed eggs, whole tomatoes, cookies, fresh fruit, and lemonade.
3. Meat sandwiches, pickles, doughnuts, fresh fruit, and coffee or lemonade.

When packing a picnic lunch, put the things least liable to be crushed in the bottom of the box or basket. Cover the sandwiches with a damp cloth to keep them from drying and take every precaution to keep ants out of the lunch.

AN AFTERNOON TEA OR RECEPTION.—Dainty sandwiches, small cakes, salted nuts, candy, and either tea, coffee, chocolate, or punch may be served. The nuts and the candy may be omitted. If chocolate is served, the sandwiches should be sweet.

The refreshments for a tea or for a reception should be simple. The tea table should be tastefully decorated. Arrange the tea, the coffee, or the chocolate service at one side of the table. If tea is served, put one dish of sliced lemon and another of block sugar near the teapot. If coffee or chocolate is served, place near the pot a small pitcher of cream and a dish of sugar. On the table put sandwiches, small cakes, candy, and nuts (if they are to be served).

If many guests are to be served, have the tea made in the kitchen and strained into a hot teapot so that it will not grow strong from standing. Even with this precaution, fresh tea should be made several times during a large reception, because it loses its fragrance if allowed to stand.

Coffee may be made in quantity and the pot refilled. One half kilo of ground coffee in 7½ liters of boiling water should serve forty persons. Put the coffee in a cheesecloth bag about 18 by 36 centimeters and drop it in the boiling water. Then cover the vessel and keep it on the stove ten or fifteen minutes, after which remove the bag. If the coffee is too strong, it may be diluted with hot water.

Punch may be served alone or with small cakes. A small table will usually suffice. Arrange the glasses, the bowl, and the

A Tea Service on a Tray

ladle neatly. Provide enough glasses to give each guest a clean one. Some of the glasses may be washed while the others are in use.

CHAPTER XIV

COOKING FOR THE SICK

Much attention should be paid to the serving of meals to the sick. Each dish should be prepared carefully. The tray should be set like a place at the table. Hot foods should be served very hot and cold foods as cold as possible. No more than just the quantity needed each time should be prepared, except in the case of jelly, gruel, and other foods that do not spoil easily.

Food left on the tray by the patient should not be served a second time and food that has been in the sick room should not be eaten by others.

It is important for a sick person to have food of the right kind, quality, and quantity.

The kind of food served depends on the nature of the illness and on whether the patient is on liquid diet, on light diet, or on convalescent diet. If a doctor is in attendance, he will decide what to give and you should know how to prepare and how to serve it.

A very sick person is put on a liquid diet, which consists entirely of liquid food. Fever patients are given liquid foods, such as milk, broth, and beef tea. A slightly sick person is put on a light diet, which includes liquids, soft-cooked eggs, soup, toast, custard, jelly, fruit, and a little tender meat. A convalescent diet includes all food that can be digested easily.

For constipation coarse starchy foods, like corn meal, should be eaten with plenty of fruit, vegetables, and water.

For diarrhea give scalded milk, arrowroot gruel, and rice water. Well-cooked rice may be given in mild cases. These foods should be served hot.

An abundance of fresh dry air is said to be one half the cure for tuberculosis, and the diet of the patient is said to be the other half. An abundance of milk, eggs, and fats in such digestible forms as cream, butter, olive oil, and crisp bacon should be eaten. Soups, fish, rare meat, cocoa, and chocolate should be included in the diet. With these tissue-building foods, fresh vegetables and fresh fruits should be eaten to stimulate the appetite, to aid digestion, and to furnish the necessary minerals. Well-cooked starchy foods may be used in moderation. Fried foods, salt fish, and many of the sweets should be avoided.

As a rule quick breads, fried foods, pork, coarse vegetables, the majority of sweets and condiments should not be eaten by any one who is sick.

Practical Work.—Learn to prepare from recipes given in this text the following foods for the sick:

Rice water
Albumin water
Toast water
Lemonade
Orangeade
Dry toast
Zwieback
Milk toast
Water toast
Corn-meal gruel
Rice gruel
Pasteurized milk
Eggnog
Coddled eggs
Soft-boiled eggs
Poached eggs
Steamed custard
Chicken broth
Broiled chicken
Broiled fish
Beef juice
Beef tea
Ice cream
Milk sherbet
Yeast bread
Steamed rice

REVIEW

1. On what does the kind of food for a sick person depend?
2. When is each kind of diet used?
3. What is included in each diet?
4. What foods are given to fever patients, to persons suffering from diarrhea, to tubercular patients?

PART VI

SEVENTH-GRADE FOOD SELECTION AND DIET

PART VI

SEVENTH-GRADE FOOD SELECTION AND DIET

CHAPTER I

FOOD GROUPS AND THEIR USES

INTRODUCTION.—Did you ever look at a big school garden and count the different kinds of vegetables growing there? Did you ever visit a big market where many kinds of vegetables and fruits and other foods are sold? Did you ever notice that certain kinds of food, some cheap and some very expensive, have been brought to us from other countries across the ocean? If you have noticed all this and if you are one who thinks about what you see, you must have marveled at the many different kinds of food there are in the world. But there is a very important question about food of which you probably did not think. That question is: "How is the housekeeper to know what food is the best to buy among all the different kinds sold?" The following study aims to answer this most important question.

We have already learned in our sixth-grade lessons in cooking, that all of the various kinds of food may be classified in a few groups. This is because many of our foods that are very different in appearance are after all really composed of the same substance, just as many articles that are very different in appearance are made of the same material. For example, think how many different articles can be made of bamboo. Do they all look alike? How many can you think of that are made of abaca? Do they all look alike?

All food materials must contain either proteins, fats, or carbohydrates or a mixture of the three, and may be classified under one of these groups. To review the use of each food group in the body, see page 80 in this text, and *Sanitation and Hygiene for the Tropics*, pages 231, 232, and 234.

If we wish to be well and strong we must choose our food from each group every day, and we must eat the amount from each group that the body really needs.

EFFECTS OF AN EXCESS OF ENERGY FOODS.—If we eat more fats or carbohydrates—starch or sugar—than the body needs for heat and energy, the amount that is not used immediately is stored in the body as fat. It is desirable to have some fat distributed over the body to serve as a pad or cushion between the muscles and oyer the bones or as a covering around the nerves to protect them. A certain amount of fat adds to our appearance, but too much is unattractive and a useless weight to carry. Likewise, too much fat sometimes crowds the internal organs and hinders their action. The heart may be so covered by fat that it cannot perform its work perfectly. (See *Sanitation and Hygiene for the Tropics*, pages 259–260.)

ENERGY FOODS STORED FOR IMMEDIATE USE.—In a healthy, well-fed person a small amount of digested carbohydrate is stored in the muscles and in the liver. This small reserve is always ready for immediate use to supply energy and heat when a person is exercising or working. Since we are continually drawing upon this reserve, we must keep it replenished by eating enough carbohydrates each day to restore this supply. If it is not replaced, the fat which is stored in the body will be used for energy and heat.

INSUFFICIENCY OF ENERGY FOODS.—When a person does not eat fats and carbohydrates in sufficient amounts, he becomes thin and weak. He has not enough energy material stored in his body to supply his muscles with strength when he attempts to work. It is a well-known fact that persons who are very thin cannot do heavy work. Sometimes they are so weak that they can do no work at all. Since fats and carbohydrates furnish energy and heat to the body, it follows that persons who are engaged in hard labor need much of this kind of food while those who are engaged in light labor need less, just as an engine that is doing much work needs more fuel than one doing a small amount of work.

CHEMICAL ELEMENTS IN FOODS.—Fats and carbohydrates are made up of only three basic substances or elements: carbon, hydrogen, and oxygen; protein contains in addition to these three elements: nitrogen, sulphur, and usually other elements. (See *Sanitation and Hygiene for the Tropics*, page 231.)

NECESSITY FOR PROTEINS.—Proteins have a place in the diet that cannot be filled by fats or by carbohydrates, because proteins always contain nitrogen, and nitrogen is necessary for the growth of every living cell. Proteins are thus necessary to build and repair the muscles, the nerves, the brain, and in fact all living parts of the body. Without protein there can be neither growth nor life. Children should eat a sufficient amount of protein to enable them to grow new tissues and to develop properly; persons who have been sick need protein to renew parts of the body that may have wasted away during the illness; and grown persons in good health need protein to replace the body tissues that are wearing out every day. (See *Sanitation and Hygiene for the Tropics*, pages 260, 261, and 263.)

EFFECTS OF AN EXCESS OF PROTEIN.—On the other hand, to eat too much protein is very detrimental to the health because protein is not stored in the body as fat is. Each day the part of the protein that is not used in building new cells or tissues is eliminated as waste. Most of this waste is dissolved in water and is thrown off through the kidneys. When the unused amount of protein is large, the kidneys may be overworked or they may be unable to eliminate so much waste.

The protein that has not been used for food and has not been thoroughly digested or eliminated remains for a long time in the large intestines where bacteria grow in it causing it to decay. This decayed material acts as a poison to the body.

PROTEINS AND AMINO ACIDS.—There are many kinds of proteins, all made up of smaller parts called amino acids which are sometimes spoken of as "building stones." Can you think why? However, all proteins do not contain the same amino acids nor do all proteins contain them in the same amounts. There are about twenty different amino acids, all containing nitrogen and all of varying importance to the body. (See *Sanitation and Hygiene for the Tropics*, page 259.)

When a protein is digested, it is broken up into the amino acids of which it is composed. These amino acids are absorbed by the blood and carried to different parts of the body. Each tissue then takes from the blood the particular amino acids in the proportions that it needs to build or to repair its own kind of protein. That is, the brain takes certain amino acids, the muscles take others, the liver takes others, etc., until each tissue has what it needs. The amino acids are then rearranged in some new form by the respective tissues to build the different proteins which make up the living cells of the particular organ of the body which has absorbed them. This seems like a long process but it is necessary because the proteins of the food are not the same as the proteins of the muscles, brain, and other parts of the human body, even though they may be built up of the same amino acids. This is just as if two girls used the same kind of thread and materials yet each made a different type of garment.

Each amino acid has its own use in the body and its place cannot be filled by another amino acid or by any other substance. When building a house or making a dress there are certain materials that the carpenter or the seamstress must have or the house cannot be built or the dress made.

THE FOOD VALUE OF PROTEINS: INCOMPLETE PROTEINS.—The real food value of proteins, then, depends on the number and kinds and amounts of the amino acids with which they may supply the body. Proteins that do not contain enough different amino acids or do not contain them in sufficient amounts to nourish the body properly are said to be incomplete. Sometimes it is necessary to combine two or more incomplete proteins in the diet in order to furnish the body with all the amino acids that are needed for growth and repair. In this way one protein is likely to supply what another may lack. If the protein food which a person eats is incomplete—it makes no difference how much he may eat—he will either fail to develop or will suffer poor health, severe illness, or even death.

EXPERIMENTS WITH INCOMPLETE PROTEINS.—Many experiments, usually in feeding rats, have been carried out to demonstrate the effect of feeding incomplete proteins to young animals. These experiments show—

1. That some incomplete proteins will not support life.
2. That some incomplete proteins support life but they will not produce growth.

A young rat eating an incomplete protein, such as in 1 above, and receiving no other protein food will live only a very short time. This is because the protein does not contain the amino acids that support life. A young rat brought up on an incomplete protein; such as in 2, will live its complete span of life but it will grow very, very slowly and will always remain small. This is because the protein does not contain the amino acids that produce growth. (See *Sanitation and Hygiene for the Tropics*, page 259.)

Doctors believe that the lack of certain other amino acids in the food causes serious illnesses which often result in death.

SELECTION OF PROTEIN FOODS.—Because there is so great a difference in the composition of proteins, it is always wise to select this food from more than one source. Usually it is best to have a part come from a vegetable source and a part from an animal source. If most of the protein of the diet is from vegetable foods, they should be of many kinds because vegetables are more often lacking in complete proteins than are such foods as milk, eggs, meat, or fish.

If proteins are selected from several sources it is likely that a grown person will be well supplied with the necessary amino acids, but in selecting a diet for growing children more care must be used to include proteins that supply an abundance of growth-producing amino acids such as those of milk and of eggs. (See *Sanitation and Hygiene for the Tropics*, page 259.)

REVIEW

1. How many different kinds of food do you suppose were sold in your market on the last special market day?

2. How many kinds of vegetables are growing in the school garden?

3. Are there many kinds of food sold in your town that are shipped into the Philippines from other countries?

4. What is a very important question about food that every good housekeeper should be able to answer?

5. How may the housekeeper learn to answer this question correctly?

6. Why is it that all of the many different kinds of food may be classified under a few groups? Illustrate.

7. Name the three groups into which foods are usually divided.

8. Give the use of each group.

9. When we eat more fat and carbohydrate than we need, what does the body do with the extra quantity?

10. What are the advantages of having fat stored in the body? The disadvantages?

11. Where is the energy food stored that is always ready for immediate use?

12. What does the body do for energy when this supply is used up?

13. How can we prevent having this supply of ready energy completely and permanently exhausted?

14. What happens to one who eats too small an amount of carbohydrate foods?

15. What is another name for carbohydrate foods? Name five foods rich in carbohydrates.

16. What persons should eat a large amount of energy food? Why? What food groups furnish energy?

17. What are the chemical elements found in fats and carbohydrates? In proteins?

18. Why is protein important in the diet?

19. Why cannot other foods take the place of protein?

20. What persons need to have special care given to their supply of protein food? Why?

21. Is protein stored in the body as fats are? Is any protein stored in the body?

22. In case of sickness, when one does not eat enough food, what does the body do for protein? For energy food?

23. What do you think of the custom of allowing the sick to go without food of any kind for a considerable length of time? Why does a sick person need food?

24. What particular attention should be given to the diet of a sick person who is very thin? to the diet of a sick person who is very fat? Discuss your answers fully.

25. Give two reasons why it is bad for the health to eat too much protein.

26. Name five foods rich in proteins; five rich in carbohydrates; and five rich in fats.

27. Before protein can be absorbed into the blood, what is necessary?

28. What is the name of the parts into which the protein is divided when digested?

29. What becomes of these substances after they have been absorbed into the blood?

30. Why is it necessary to break a protein into its parts in the small intestine and then put the parts together again to form the tissues of the body?

31. Do all amino acids have the same use?

32. Can one amino acid take the place of another in the body? Illustrate.

33. Some proteins are better as food than others. Why is this true? Explain fully.

34. What is an incomplete protein?

35. Discuss two kinds of incomplete proteins.

36. What happens when the only protein we eat is incomplete?

37. In order that our supply of protein shall not be incomplete, how shall we select our food?

38. Why should special care be taken in selecting the protein food for children?

39. Tell about experiments with incomplete proteins.

40. Which do you consider the more difficult, the proper selection of protein foods or the proper selection of carbohydrates? Why?

CHAPTER II

MINERALS REQUIRED BY THE BODY

INTRODUCTION.—There are about twelve different minerals required by the body. These minerals are sometimes spoken of as "ash" because when food containing them is actually burned they are the part that remains. They are also sometimes called "salts." We can hardly say that any one of these minerals is of more importance than another because good health depends on the presence of all of them. Without minerals the body processes such as secretion and absorption cannot be carried on, and the bones and the teeth cannot harden. Serious diseases often result from the lack of a sufficient amount of any one of these minerals in the body. For example, the most common form of goiter, a disease in which the thyroid gland in the neck becomes enlarged, is caused by the lack of a sufficient amount of some form of iodine in the food. (See *Sanitation and Hygiene for the Tropics*, pages 196, 197, 233, and 265.)

The minerals which are most apt to be lacking in amounts sufficient for our needs in our vegetable foods are calcium, phosphorus, and iron. If we are careful to select our diet so that the proteins and carbohydrates are provided in the correct proportions, the slight amount of minerals needed in addition to these three will probably be supplied in adequate quantities. But the food may contain the correct amounts of proteins, carbohydrates, and fats and yet lack either calcium, phosphorus, or iron, or all three. For this reason, when selecting foods, special care must be taken to include those that are rich in these three minerals.

CALCIUM.—One of the most commonly known uses of calcium is to help make the bones and teeth hard, but this mineral has other important functions. Calcium is necessary to make the blood coagulate or thicken to stop bleeding from cuts and wounds, and is essential to the proper action of the heart. Scientists also believe that several diseases are the result of too little calcium in the body.

IRON.—The amount of iron in the body is small, but it is of the greatest importance. Most of this iron is found in the red corpuscles of the blood which carry oxygen from the lungs to all parts of the body. It is therefore as necessary to have the iron in the blood to act as oxygen carrier as it is to breathe the oxygen into the lungs. There is considerable calcium stored in the body—in the bones and in the teeth—but there is very little storage of iron except in infants. Therefore, if the supply of iron is diminished for any length of time, the blood is not able to carry a sufficient amount of oxygen to the cells of the body, and poor health from actual suffocation of the tissues must result. When a person does not have enough iron in his blood his face and lips are pale and we say that he is anæmic. (See *Sanitation and Hygiene for the Tropics*, page 107.) For this reason, foods rich in iron should form a part of every day's diet. All normal infants are born with a reserve supply of iron that will last them several months. It seems that iron is so important that nature does not leave chance or luck to supply the new-born child with this mineral.

Phosphorus.—Phosphorus is found in small amounts in all living cells of the body. With calcium it helps to make the bones hard. It is therefore essential to good health and even to life.

Mineral Foods.—Foods richest in minerals are:

1. Leafy foods, such as lettuce, pechay, camote leaves, etc.
2. Milk.
3. Vegetables, such as squash, carrots, string beans, etc.

The minerals in vegetables and fruits and in milk are in a form that can be taken into the blood stream very readily. That is one reason that these foods are valuable, for the body can utilize these minerals only after nature has combined them in some way in food substances. For example, it would do no good and it might be dangerous to feed an anæmic person fine particles of iron or iron rust, or to feed chalk or white-wash to a patient suffering from rickets.

REVIEW

1. About how many minerals are found in the body?
2. Which are the most important?
3. What are some of the uses of minerals in the body?
4. What is the result if we do not obtain enough minerals from our food?
5. What are minerals sometimes called?
6. What minerals are most often lacking in food?
7. If we are careful to supply the body with calcium, iron, and phosphorus, are all the other necessary minerals likely to be present in sufficient quantity? Why?
8. State the chief uses of calcium, of iron, and of phosphorus in the body.
9. Discuss the storage of iron in the body.
10. What foods are rich in minerals?
11. Are you eating enough of these foods to keep your body well and strong?
12. Many expensive patent medicines are advertised as being very valuable because they contain minerals, especially iron. Which do you consider the wiser thing to do: (*a*) to spend your money for medicine of which you know nothing, or (*b*) to spend it for fresh fruits and green vegetables which you know contain an abundance of minerals? You may be sure that nature supplies the minerals in forms which the body can most easily use. What animals get all of their minerals except common salt from leafy foods?

CHAPTER III

VITAMINS

Introduction.—Within the last few years it has been found that a person may eat sufficient amounts of proteins, fats, and carbohydrates; that he may eat proteins, selected from different sources; that he may be well supplied with minerals; and that he may drink plenty of pure water; but still he may be sick or even die, because his food is not properly selected. This is because his food may not contain enough of the newly discovered substances called vitamins (vī′ tă mĭns). (See *Sanitation and Hygiene for the Tropics*, page 263.)

THE NATURE AND IMPORTANCE OF VITAMINS.—Vitamins are not food; they are substances that are found in minute quantities in certain foods. Although the amount of a vitamin present in any food is always very small, its importance is very great. If a person eats food which contains no vitamins, he soon dies. If he eats food containing too small an amount of vitamins, he becomes weak and sick. He may live in this weakened condition for months or perhaps for many years. The length of time depends upon the amount of vitamins that may be present in his food. Sometimes when there is only a partial starvation for vitamins, a person may not appear to be really sick, but he will have no strength and will be inclined to laziness, weariness, and stupidity; sometimes he is stunted in growth; and sometimes his bones are undeveloped or imperfectly shaped. Persons in this weakened condition caused by lack of vitamins are the first to fall prey to various diseases, chief among which is tuberculosis.

Many boys and girls—perhaps most of them—who fail in school each year, fail not because they have poor brains, but because they are not eating enough vitamins. They are really starving—not for rice or meat, but for vitamins.

At the present time, we know the importance of three vitamins. Although it is known that there are more than three, we do not yet know the uses of all of them. The three vitamins about which we know are vitamin A, vitamin B, and vitamin C. Each of these has a different use in the body.

VITAMIN A.—Vitamin A is sometimes called fat-soluble A, because it is found in nature dissolved in some kinds of fat. It is also often spoken of as the growth-producing vitamin because children who do not have enough of it in their food do not grow or develop properly. If there is no vitamin A in the food, children do not grow at all and after a time they die. Pitiful examples of starvation for vitamin A are often seen among the children of the very poor who do not have the right kind of food. Their bodies are small and thin, poorly developed, and often misshapen. But ignorance about the kind of food suitable for children is not confined to the poor. There are well-to-do families, in which, because of the ignorance of the mother or of the nurse, the children are not given the right kind of food to develop strong, healthy bodies.

In addition to producing growth, two of the principal effects of vitamin A are—

1. It has a great influence upon the healing of wounds and sores which heal very slowly and with great difficulty in the case of persons who do not obtain enough of it.
2. Children deprived of vitamin A sometimes have a very serious eye disease in which the eyes become swollen and inflamed, resulting in blindness if the disease is not checked by the proper diet.

Because vitamin A is necessary for growth, we may expect to find it in abundance in milk, which is nature's food for the young. It is also necessary for the health of older persons, because even after growth has apparently ceased, some must still go on in order to replace parts of the body that are constantly wearing out.

VITAMIN B.—Vitamin B is sometimes called water-soluble B, because, in nature, it is found dissolved in water. This vitamin is best known as the anti-beriberi vitamin, because when it is eaten in sufficient amounts it prevents this disease. Beriberi always results when a person has an insufficient amount of vitamin B in the food.

Beriberi is found in all parts of the world, but it is only in rice-producing and therefore rice-eating countries that a large number of persons suffer from this disease. We are all more or less familiar with it. Formerly several thousands of persons in the Philippines died every year and thousands of others who did not die suffered because of it. Within recent years, because of the increase of knowledge regarding foods, beriberi has been eliminated in the Philippines in government institutions and in other organizations in which the food supply can be controlled. Formerly, beriberi was very prevalent in Bilibid prison and among the Philippine Scouts. Now in Bilibid and among the Scouts it is practically unknown. This has come about through a change of food. Food is now used that supplies a sufficient amount of vitamin B.

Notwithstanding this, in many provinces of the Philippines, there are recorded many deaths each year from beriberi. Moreover, a simple statement of the number of deaths in a year does not give us a complete record of all the illness, suffering, and loss of life that result directly or indirectly from the lack of a sufficient amount of vitamin B in the food.

Without doubt many of the persons who die of tuberculosis contract the disease and succumb to it because of a weakened condition of the body brought about by the lack of a sufficient amount of vitamin B in their food. They may eat enough of this vitamin to prevent actual sickness from beriberi but they may not eat enough to insure health and strength. No one with a body already weakened from lack of a sufficient supply of vitamins can hope to fight successfully tuberculosis or any other disease.

Many nursing infants are weak and sick and many die because of an illness called infantile beriberi (taon, suba) which is caused by the lack of vitamin B in the mother's milk. A nursing mother cannot supply the baby with vitamin B unless she obtains plenty of this vitamin in her food. (See *Sanitation and Hygiene for the Tropics*, page 267.)

Beriberi is a disease of the nerves. It is a sickness in which the nerves throughout the body become inflamed and sore. The inflammation of the nerves of feeling causes great pain, and the inflammation of the nerves of motion causes partial or total paralysis. This inflammation of the nerves is accompanied by other disorders in digestion, assimilation, circulation, etc. One person suffering from beriberi may be very thin and emaciated, another may have parts of the body swollen. The former is called the "dry" type, and the latter the "wet" type of beriberi. The latter type is more frequent among very young children.

Many very interesting experiments have been carried out in different parts of the world to find the cause of beriberi. It has now been proved beyond a doubt that it is caused by eating food lacking in vitamin B and it has been found moreover, that it can be cured by food containing plenty of vitamin B except in cases that have advanced too far. In fact no other cure has been found. In severe cases of the sickness where a large amount of vitamin is needed in the body at once, an extract made from the polishings or bran of rice is given the sick person, or if the extract is not at hand the polishings (tikitiki) themselves may be cooked and eaten.

Birds, chickens, dogs, and pigs, if fed polished rice exclusively, soon develop a sickness that in all respects resembles beriberi. Sometimes a pigeon that has experimental beriberi may have its body drawn out of shape by spasms and may be unable to move. Within three or four hours after being given an extract of rice polishings the bird seems cured. That, within a few hours of death, an apparent cure can be effected so readily seems little short of magic. (See *Sanitation and Hygiene for the Tropics*, page 266.)

The germ of the rice grain is very rich in vitamin B and the under part of the covering of the rice grain is also an important source. When rice is polished, these parts of the grain (tikitiki) are removed and the rice loses this valuable substance. If people who eat polished rice can afford it, they may obtain enough other kinds of food to supply the amount of vitamin needed, but persons living on a diet which consists very largely of polished rice are liable to have beriberi because of the lack of vitamin B.

VITAMIN C.—Vitamin C is best known as the vitamin that prevents a disease called scurvy which is found among children and adults who are deprived of a sufficient amount of this vitamin. Sailors and soldiers often suffer from it when they go a long time without fruit and certain vegetables. (See *Sanitation and Hygiene for the Tropics*, page 264.)

Vitamin C, is found in milk and in orange juice. Heating milk too hot destroys this vitamin. This is why the wise mother who feeds her young child milk that has been heated always includes a little orange juice in the baby's diet.

SOURCES OF VITAMINS.—Vitamins are made by plants from substances in the air and in the soil taken in through their leaves and roots, but they cannot be made in the human body, as fat, for example, is made from starch or sugar. It is therefore necessary to eat food containing all the vitamins that the body needs.

All three vitamins are found in fresh milk. Milk that has been heated, evaporated, or condensed in order to keep it from spoiling is lacking in vitamin C, and probably in vitamin A.

All vegetables are important sources of vitamins. All leafy foods such as pechay, lettuce, camote leaves, and cabbage are especially rich in vitamins. Fruits also are an important source. They are richer in vitamin C than in the others. Since sprouted mongos are rich in vitamin C, this food should appear in the diet often. Eggs and nuts contain vitamins A and B. Tomatoes contain all vitamins. Their great value lies in the fact that when they are cooked, not all of vitamin C is destroyed. For this reason cooked tomatoes or canned tomatoes as well as raw ones are a valuable addition to the diet. As a rule, canned foods are not as valuable as fresh ones because they have been heated. Heating or cooking destroys a part or all of vitamins A and C. For this reason it is necessary to include an abundance of raw fruits and raw vegetables in the diet.

REVIEW

1. What newly discovered substances are necessary to a properly selected diet?
2. What are vitamins? What is their importance?
3. What happens to a person who eats food that contains no vitamins?
4. What happens to a person who eats food containing an insufficient amount of vitamins?
5. What is probably an important cause of many failures in school every year? What would you suggest to improve this condition?
6. Name the kinds of vitamins that we know very well. Do they all have the same use? Are there more than three vitamins?
7. What is another name for vitamin A? Why is it so called?
8. Why is vitamin A necessary in the diet of children? Give two reasons why children may not receive enough of this vitamin.
9. Give three uses of vitamin A.
10. Name one food that contains it in abundance.
11. Why is vitamin A also necessary for the good health of older persons?
12. Why is vitamin B sometimes called "water soluble?"
13. By what other name is this vitamin well known? Why?
14. Where is beriberi found?
15. Have you ever seen a case of beriberi?
16. Tell about the deaths from beriberi that formerly occurred in the Philippines.
17. Why are there not so many such deaths now?
18. Are there now any deaths in the Philippines from beriberi? Is there any sickness?
19. Is tuberculosis in any way related to beriberi? How? Do you think any other diseases are related to beriberi?
20. What causes infantile beriberi? How can it be cured?
21. What is the nature of beriberi as a disease?
22. Do we know positively the cause of the disease and how to prevent it? Discuss this question.
23. There is only one known cure for beriberi. What is it?
24. What animals besides man may suffer from a lack of vitamin B in the food? How may such animals be cured?
25. Where is vitamin B found in great quantity?
26. How and why is the vitamin removed from rice?
27. What part of the rice grain is the germ? Get a few grains of unpolished rice and find the germs.
28. Why do some people prefer polished to unpolished rice as food? Do you prefer it? Why?
29. Do all persons who eat polished rice develop beriberi? Explain.
30. What are rice polishings called? What do you think of the custom of feeding these polishings to the pigs or throwing them away?
31. If you heard of a nursing infant suffering from beriberi what would you advise the mother to do?

32. If you knew of a boy or a girl or of a grown person suffering from the disease what would be your advice?

33. What is tikitiki extract? Why is it so valuable? Where may one get it? Is it expensive?

34. Why is vitamin C important?

35. Where is vitamin C found?

36. Why do infants sometimes develop scurvy? What remedy would you suggest?

37. What other persons besides infants sometimes have scurvy? Why? What is the cure?

38. Are vitamins made in the human body? Where are they made? From what are they made?

39. Name some important sources of the different vitamins.

40. What vitamin is easily destroyed by heat?

41. Why are raw vegetables and fruits valuable food?

42. Are you and your family eating enough vitamins? Why do you think so? What foods do you eat that contain them? Do you eat them every day?

43. Do you eat either fruit or green vegetables at every meal?

44. Make a list of foods rich in vitamins that may be grown in the school garden or in the home garden.

45. Why will you be sure to include tomatoes in the above list?

46. What can you do to interest your family and your friends in eating foods that contain a sufficient amount of vitamins?

47. Within the last year or two, expensive patent medicines have appeared on the market which are advertised as being very valuable because they contain vitamins. Which do you consider the wiser way to spend your money (*a*) to buy expensive medicines that contain vitamins, or (*b*) to buy some cheap, fresh food that contains them in abundance? What idea is better still? Why not whenever possible raise a supply of vitamins in a home garden? (See *Sanitation and Hygiene for the Tropics*, page 391.)

48. Do you suppose the school-garden boys know the great value of the vegetables they are raising? What can you do to help them to understand how valuable their garden products are? Will this encourage the boys and their teacher?

49. Plan some way to help the boys to realize how valuable their garden work really is.

CHAPTER IV

A BALANCED DIET

INTRODUCTION.—Since good health is so closely dependent upon the food we eat, it is of the greatest importance that we eat the kinds of food which the body needs and that we eat them in the correct amounts and proportions. The appetite is usually a very reliable guide as to the amount of food to eat but we must have considerable knowledge of foods in order to decide the necessary proportions. The body must be kept supplied with enough energy food but not too much, and there must be enough tissue-building food but not too much. When food is selected to give the body the necessary vitamins and the correct amounts of proteins, fats, carbohydrates, and minerals, we speak of it as a balanced diet.

Planning a Balanced Diet.—In planning a balanced diet we must always take into consideration the age, the health, and the occupation of the persons who will eat the food. Young children need plenty of the kinds of food which produce growth. One who is engaged in a very active occupation where he uses much energy needs a larger proportion of fats and carbohydrates. It is a mistake to eat a much larger amount of protein than usual when one is working hard, for what is needed is a much larger supply of energy foods.

Proportion of Energy Foods.—Because fats and carbohydrates are used for practically the same purpose in the body it is usually customary, except in advanced studies, to consider these two foods together when planning a balanced diet. The two together should form slightly less than six-sevenths of the diet. It is necessary to have some fat in the diet, but when too much is eaten it frequently causes indigestion.

Proportion of Tissue-Building Foods.—Proteins then, should make up the remainder of the diet—a little more than one-seventh, but always less than two-sevenths.

Amounts Required.—We may state this in amounts and say that an adult at light labor needs the following diet each day:

Protein—75 to 100 grams.
Fat—35 to 50 grams.
Carbohydrate—375 to 450 grams.

This is the requirement for an average-sized person between twenty-five and forty years of age. If the person is large in bone and muscle—not fat—more food is needed. If he is engaged in hard labor, more energy foods are needed in the form of carbohydrates and fats. A boy or a girl fifteen or sixteen years of age or over, needs about the same amount and kind of food as an adult at light labor, with the exception that special attention should be given to the kinds of protein given to growing boys and girls. Pupils very active in athletics need more energy foods than their companions who take less exercise.

A Mixed Diet Necessary.—One of the difficulties in planning a balanced meal or a balanced diet is that very few of the things we eat are composed exclusively of a protein, a fat, or a carbohydrate. Each food is usually a mixture of the different groups.

Lard is practically pure fat and sugar is usually one hundred per cent carbohydrate, while fish is a mixture of proteins and fats, rice is a mixture of proteins and carbohydrates, and corn is a mixture of proteins, fats, and carbohydrates.

No one food alone, except mother's milk which is nature's food for the infant, contains all the food groups in the proper proportions. For example, bananas contain proteins, carbohydrates, fats, and to a slight extent, minerals and vitamins, but if one attempted to live on bananas for one day he would need to eat about four kilos to provide enough energy food for the day, and would not even then be supplied with enough proteins. He would need to eat at least two kilos more to supply enough tissue-building food. He would then be over supplied with energy foods, the excess of which would be stored as fat, but still he would not have a sufficient amount of minerals or of vitamins, because bananas are poor in both of these. (See *Sanitation and Hygiene for the Tropics,* page 251.)

If one should attempt to get all his nourishment for one day from eggs, the condition would be still worse, because eggs contain no carbohydrate at all and it would be necessary to eat about eleven eggs to get a sufficient amount of protein for one day. There would be some fat from the yolks, but this would not be enough to provide energy for the day, and no vitamin C would be supplied, for eggs are entirely lacking in this vitamin. (See *Sanitation and Hygiene for the Tropics,* pages 268–270.)

The only way in which we may provide the body, except in the case of infants, with all the different food groups in the correct amounts is by carefully selecting and combining different kinds of food. This, as we see, requires considerable knowledge of the composition of foods.

REVIEW

1. Why should we be careful to eat the amount and proportion of food the body really needs?

2. Can we always depend on the appetite as a guide in the selection of our food? Explain.

3. Explain and illustrate just what is meant by saying that we should eat food in certain proportions.

4. What is meant by a balanced diet?

5. Why do you consider the study of balanced diets important?

6. What must be considered when planning a balanced diet? Why? Should a man doing very hard work eat an extra amount of rice, ca-

motes, or similar food, or should he eat a larger amount of meat and fish? Explain your answer fully.

7. What fraction of the diet should be energy foods? What fraction should serve for building and repair?

8. What two groups of foods are used for energy and heat in the body?

9. About how many grams of fat should a person eat in a day?

10. Fold a piece of paper to form a container[1] about the right size to hold this amount of fat.

11. State in grams the average amount of carbohydrate needed in one day by an adult at light labor or by a growing schoolgirl of fifteen or sixteen years of age.

12. Uncooked rice is about eighty per cent carbohydrate. How many grams of rice must a person eat to supply four hundred grams of carbohydrate?

13. Fold a piece of paper to form a container[1] that will hold this amount of uncooked rice.

14. After rice is cooked, the amount of food seems much greater in both weight and volume because a large quantity of water has been absorbed. But has the actual amount of carbohydrate changed in any way during the cooking? Has the percentage of carbohydrate changed?

15. About what percentage of cooked rice is carbohydrate? Fold a container[1] that will hold the cooked rice which will supply four hundred grams of carbohydrate.

16. State in grams the average amount of protein needed in one day by an adult at light labor.

17. If you were getting all your protein for the day from beans, about how many grams would you need to eat? Remember that beans are only about twenty per cent protein when dry.

18. Fold a container[1] about the right size to hold the beans required. The container[1] must hold not only the protein but all the beans.

19. What difference should be made between the diet of an adult at light labor and that of a boy or girl about fifteen or sixteen years of age?

20. When should a person have an extra amount of energy food added to his diet? Why?

21. Why is it so difficult to plan a balanced diet?

22. Why is milk sometimes called a perfect food?

23. Is it a perfect food for an adult? Explain.

24. Why could one not live on bananas alone? Why not on eggs? Why not on fish? Why not on eggplant? (See the tables on pages 44 and 45 for the composition of these foods.)

25. Why is a mixed diet necessary?

26. Have you learned anything that will help you to correct your diet? If so, state the five things you have learned which you consider the most important.

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[1] NOTE.—One cubic centimeter of water weighs one gram. One cubic centimeter of no other substance is exactly the same weight as water, but with many substances the weight is so nearly the same that this measure may be considered accurate enough for our purpose.

27. Are you doing anything to interest your family in balanced diets?

28. Have you learned enough about diet to make you able to judge quickly and accurately whether a meal is well balanced or not?

29. In general do you believe the families in your community are eating properly balanced meals? If they are not what do you think could be done to improve the diet of the average family?

30. Are you eating a balanced diet? If it is not balanced in what is it lacking?

CHAPTER V

A WELL-SELECTED DIET

INTRODUCTION.—It seems that the housekeeper already has a difficult task in choosing foods that make up a balanced diet, but in addition to being balanced, foods must also be well selected. A diet may contain the correct proportions of energy foods, building foods, minerals, and vitamins yet it may be poorly selected. There are still other important points that must not be overlooked. We shall consider a few of them—perhaps you can think of others.

PLEASING COMBINATIONS OF FOODS.—No one would serve sugar or molasses on chicken, though these two foods could be made to provide protein and carbohydrate in proper proportions. Without much knowledge of foods we know that something would be wrong with such a combination. There are other combinations of food that do not measure up to the highest standards of food selection. For example, carrots and camotes served at the same meal fail to give a pleasing variety. They are too much the same in general appearance, they taste somewhat alike, and they are much the same in composition—both being composed largely of sugar and starch. It would be better to serve at a single meal just one of these vegetables and eat more of it. It may be desirable of course, sometimes to serve two or more protein foods at one meal in order to be sure there are no necessary amino acids lacking, but carbohydrates are all of the same kind whether they contain starch or sugar or both, and, other things being equal, there is no advantage gained in serving two carbohydrate dishes at one meal. To know just what foods are best to serve at the same time requires knowledge, judgment, and imagination.

PLEASING VARIETY OF FOODS.—There are certain foods such as rice or bread and in some places corn or potatoes which we may eat at every meal and not grow tired of them. Such foods furnish a large part of the carbohydrate required in the diet and one of them should form a large part of every meal.

Which to use depends on which one grows best in the particular section of the country. But aside from such staple foods as rice, corn, or wheat bread, and milk, butter, sugar, etc., which may be served at every meal, the diet should have a pleasing variety of foods. We would soon become tired of the same dishes if they were served at every meal, whereas if we had them two or three times a week we might eat them with relish. The ability to make a nice distribution of such foods in the diet shows that the housekeeper has a fine appreciation of food combinations.

CELLULOSE IN THE DIET.—Cellulose is the woody part of fruits and vegetables. In young vegetables it is tender and crisp but in old vegetables it sometimes becomes tough and hard. It forms the stringy part of bean pods, pea pods, and of leafy foods. It is found in small quantities in fruits and in such foods as onions, squash, and potatoes.

Cellulose is not digested to any considerable extent—if at all—so it is not considered a food, but it is very useful in the diet to give bulk. In this way it serves as a broom to keep the alimentary canal swept clean, and thus it prevents constipation or the clogging of waste material in the intestines. The diet of every one excepting very young children should contain an amount of cellulose sufficient to give the food bulk so that the intestines may push the waste material along. Those who lead a quiet indoor life with little exercise need more cellulose in their food than those who lead an active outdoor life.

When waste accumulates in the intestines bacteria grow in it and cause it to decay, and the decayed material produces poisons. These poisons are absorbed by the blood and are carried all over the body causing headache or often a dull, sleepy, tired feeling, and very often a poor complexion.

In cases of constipation, persons are frequently annoyed by the presence of gas in the intestines. The remedy is to eat the proper food to make the bowels move every day—otherwise no girl can hope to have bright eyes, a clear, fresh skin, and a quick, active mind. (See *Sanitation and Hygiene for the Tropics*, page 268.)

DIGESTIBILITY OF FOODS.—We say a food is hard to digest if it lies in the intestine a long time before it is changed sufficiently to be absorbed by the blood. Food that can be changed in a short time so that it may be absorbed by the blood is said to be easy to digest.

When we eat too much food that is hard to digest there is danger that it will remain in the intestine so long that bacteria will grow in the food and cause it to decay. As we have said, this decayed food in the intestine acts as a poison to the body. Therefore foods hard to digest should not appear in the diet too often, nor in too large amounts.

Foods that are usually difficult to digest are—

1. Dried or smoked meats, because in drying most of the water evaporates and the food material that remains is much condensed or thickened, and is sometimes hard and tough, making it difficult for the digestive juices to reach all parts of the food.

2. Nuts, because they are hard and often are swallowed without being well chewed.

3. Fried or sautéd foods, especially if the parts of the food have been cut into small or thin pieces before cooking. This is true because many of the food particles are covered with a layer of fat, which is not digested until it reaches the intestines. The food thus inclosed must pass through the stomach and lie in the intestine until the fat around it is digested before it can be reached by the digestive juices. Meanwhile bacteria of decay may start to grow.

4. Proteins cooked at a high enough temperature to make them hard and tough. When the protein of the white of an egg, for example, is made tough by frying in hot fat it is hard to digest. Since fat when heated becomes very much hotter than water when it is boiled, the protein of eggs or of meat when cooked in hot fat is subjected to a much higher temperature than when boiled in water.

5. Foods containing a large amount of old cellulose if eaten raw, because cellulose cannot be digested and the digestive juices cannot readily reach all of the food particles inclosed within the network of cellulose walls. Cooking softens the cellulose so that many of the walls may be broken if the food is well chewed.

6. Soft or smooth foods such as bananas that are very easily swallowed although they are not well chewed. Large pieces are often swallowed without being well mixed with saliva and it may be several hours before the digestive juices can get to the center of even the smallest piece swallowed.

COST OF FOODS.—This is an important point that must always be considered in planning a meal. The problem is not only to buy protein, fat, carbohydrate, mineral, and vitamin-giving foods in the correct amounts but to select and buy cheap rather than expensive foods that contain them. For example, a box of crackers or of the small cakes that come sealed in tin boxes will supply about the same kind and amount of nutrition as two full plates of cooked, polished rice, but the cost of the crackers or cakes is about twenty times as great.

A meal may be very cheap, but it may be nutritious, properly balanced, well selected, and pleasing in every way, or a meal may be very expensive but so lacking in necessary food elements, so poorly balanced, and so poorly selected as to be of very little value in the diet. The former meal shows that the housekeeper has a knowledge of foods and of their proper combinations. The latter meal shows that the housekeeper has no knowledge of foods, though she apparently has plenty of money to spend for them.

SUMMARY OF ESSENTIALS.—The following points summarize the essentials to be considered when planning a well-balanced and well-selected diet:

1. Proportions:

(a) Proteins (building foods) should make up one-seventh or slightly more of the diet, but always less than two-sevenths.

(b) Carbohydrates and fats (energy foods) together should make up slightly less than six-sevenths of the diet.

(c) In amounts there should be—

Proteins, about 75 to 100 grams.
Fats, about 35 to 50 grams.
Carbohydrates, about 375 to 450 grams.

2. Sources of proteins:

Proteins should be selected from animal sources and from several different vegetable sources to supply all necessary amino acids.

3. Mineral content:

Special care should be taken to include in the diet foods rich in calcium, phosphorus, and iron.

4. Vitamin content:

Vitamins A, B, and C should be present in sufficient amounts.

5. Cellulose:

The presence of cellulose is necessary to give bulk to the food.

6. Sanitary requirements:

The purchaser should be reasonably sure that the foods she buys in the market are:

(a) Clean and fresh.

(b) Raised, if low-growing vegetables like lettuce or cabbage, on soil not contaminated with waste from toilets.

(c) Sold in a market or place which is reasonably clean and sanitary. (See *Sanitation and Hygiene for the Tropics*, pages 128–133.)

(d) Handled in a sanitary way, protected from flies if cooked, and with skins intact on oranges and similar fruits. Are there other requirements that belong under this heading?

(e) Handled by persons who are clean and apparently free from disease.

7. Cost:

The cost of foods should be within the means of the persons who will eat them—expensive foods should not be purchased when cheaper ones will fill the same place in the diet.

8. Quality:

Money should not be spent to an extravagant extent for flavor or for appearance although a constant effort must be made to have food well flavored and to make it appear dainty and appetizing when served.

9. Combinations:

The foods that are served at each meal must present a pleasing combination.

10. Variety:

A pleasing variety of foods should be present.

11. Digestibility:

Foods hard to digest should not appear in the diet very often.

12. Water:

Water has not been given special mention but it is understood that at every meal and between meals a person should be provided with plenty of pure, cool water. (See *Sanitation and Hygiene for the Tropics*, page 80.)

REVIEW

1. All diets should be well balanced, but are all well-balanced diets necessarily entirely satisfactory? Give reasons for your answer.
2. Why are pleasing combinations of food desirable? Name several pleasing combinations.
3. Why may it be necessary to serve more than one protein food at a meal?
4. Why is there no necessity for serving more than one staple carbohydrate food at a meal?
5. How is the housekeeper to know what foods are best to serve together?
6. What is meant by staple foods? Name some. Why may certain ones be served at every meal?
7. Why would we tire of some foods if we had to eat them often? Name a few of them for which we would soon lose our appetite.
8. What is cellulose? Where is it found? Has it any food value? Why?
9. What is the use of cellulose in the diet? What persons should eat plenty of it?
10. What is constipation? How may it be prevented?
11. What may result from it?
12. Do you sometimes feel dull and sleepy in class? Why? What can you do to prevent this?
13. Is a girl usually to blame for having a poor complexion? What may every girl do to improve her looks?
14. What may cause gas to form in the intestines? How may this be prevented?
15. When may we say that a food is hard to digest?
16. Why should we not eat such foods too often or in too large amounts?
17. Name six foods that are hard to digest, tell why, and discuss them.
18. Why should the cost always be considered when food is purchased? Are the most expensive foods always the best? Think of expensive foods and of cheap foods that furnish practically the same kind and amount of nourishment.
19. Do housekeepers with plenty of money always buy the best food for their families? Why not? What mistakes do they very commonly make?
20. Should the selection of food be left to servants? Give reasons for your answer.

21. Do you ever help at home in selecting and buying the food? Have you learned anything in this course that will help you when doing this? If so, state several of the things you have learned.

22. Of the twelve points to be considered when selecting a satisfactory diet choose the six that you consider the most important. Give your reasons for thinking them so important.

CHAPTER VI

PLANNING A DAY'S DIET FOR A SEVENTH-GRADE GIRL

INTRODUCTION.—In hospitals when it may be necessary to give a sick person an exact amount of food, everything the patient eats is weighed or measured before it is served. Also in experiments when it is necessary to know the exact amount eaten, the food is all very carefully weighed or measured. But for our present consideration the appetite is sufficient guide as to how much food to eat, and the one who selects the food must use her knowledge and judgment as to the amount that should be purchased and prepared for one person. By careful study and good judgment a seventh-grade girl should now be able to plan diets that are properly balanced, well selected, and satisfactory in every way.

A SUGGESTIVE DIET PLAN.—The following plan shows a well-balanced and well-selected diet for one day for a schoolgirl fourteen or fifteen years of age or over. Such a person will require about the same kind and amount of food as an adult at light labor, except that special care must be taken to include plenty of vitamin A and growth-producing proteins, because a schoolgirl is still growing. If the pupil is large for her age and is taking considerable exercise in athletics she will need more energy foods. Large for her age means large in muscle and bone, not in fat, for if a girl is very fat she should not, of course, eat an extra amount of fat-producing foods.

When planning a diet like the one below, it is necessary to determine accurately the amounts required for the main dishes only. After this, the nourishment furnished by the other dishes may be estimated roughly. Of course, if a pupil so desires, she may calculate the food values for all the dishes served at a meal. The last eight columns showing the mineral, vitamin, and cellulose content and the cost should be filled in as completely as possible for every article of food served.

The following diet plan is only a suggestion—numerous combinations equally desirable can be made:

SUGGESTIVE DIET PLAN FOR ONE DAY

KIND OF FOOD	WHAT IT SUPPLIES										
	Estimated weight of raw food	Energy food	Building food	Calcium	Phosphorus	Iron	Vitamins			Cellulose or Bulk	Cost
							A	B	C		
BREAKFAST:	*Grams*	*Grams*	*Grams*								This should be filled in by the pupils
Papaya	------	------	------	+	+	+	probably all			+	
Unpolished rice (one-third cup) served with four or five shrimps.	66	52	5	+	+	+	+	++	------	------	
One egg boiled and served with two teaspoonfuls of coconut butter.	40	4	6	+	+++	+	++	+++	------	------	
Chocolate (two teaspoonfuls) with sugar (one teaspoonful).	------	------	------		little		------	------	------	------	
DINNER:											
Mongos (about one-half cup uncooked) boiled with	85	53	15	------	+	------	------	++	------	------	
Fat pork	30	20	------	------	------	------	------	------	------	------	
Corn cake	------	45	8	------	------	------	------	------	------	+	
Peanuts (about twenty)	------	------	------	------	------	------	+	++	------	------	
Fruit salad with dressing	------	------	------	+	+	+	+	+	+	+	
Eggplant	------	------	------	+	+	+	probably all			+	
SUPPER:											
Meat stew with	100	25	17	+	+	+	+	+	------	------	
Vegetables	------	------	------	+	+	+	+	+	------	+	
Unpolished rice (one-half cup)	100	79	8	+	++	++	+	++	------	------	
Mustard leaves with vinegar	------	------	------	+	+	++	+	+	+	++	
Sliced tomatoes with salt and pepper.	------	------	------	++	++	++	+	+	+++	+	

NOTE.—For aid in the interpretation of the diet plan and in the calculation of all food values, see the reference tables on pages 179–183.

DISCUSSION OF THE PLAN.—In planning this diet, breakfast has been made the lightest meal or the one which has the smallest amount of food served; dinner, in the middle of the day, has been made the heaviest or largest meal; and the evening supper has been made a medium-sized meal. Some persons prefer to have a light meal called luncheon served at noon and to have dinner, the heaviest meal of the day, served in the evening.

The following shows a good apportionment of energy foods and proteins for the three meals of the day:

	CARBOHYDRATES AND FATS	PROTEINS
Breakfast	100 grams	20 grams
Dinner	175 grams	35 grams
Supper	150 grams	30 grams
Total	425 grams	85 grams

In considering the breakfast, the first thing to do is to select the main dish, and find out exactly what it furnishes the body in energy, protein, minerals, and vitamins. Then the other dishes should be chosen to supplement or complete the main dish. When selecting the other dishes it is not necessary to calculate exactly the amounts of carbohydrate or of protein they contain. Good judgment may be the guide. We have selected one cup of cooked rice (about one-third cup, uncooked) and one soft-boiled egg for the main dishes. Unpolished rice was chosen because it is rich in vitamin B.

Referring to Tables V and VI on pages 182 and 183, we observe the following facts:

Food		Amount	Weight	Percentage		
				Protein	Carbohydrate	Fat
			Grams	*Percentage*	*Percentage*	*Percentage*
Uncooked rice	cup	⅓	66	8	79	0
Egg	number	1	40	13	0	10

The actual weight of the protein, carbohydrate, and fat contained may be calculated thus:

Protein from rice—8% of 66 grams	5 grams
Protein from egg—12% of 43 grams	5 grams
Total protein	10 grams
Carbohydrate from rice—79% of 66 grams	52 grams
Total carbohydrate	52 grams
Fat from egg—9% of 43 grams	4 grams
Total fat	4 grams

We now have:

Protein	10 grams
Carbohydrate	52 grams
Fat	4 grams

Whereas we decided, on page 170 to have for breakfast:

Protein	20 grams
Carbohydrate and fat	100 grams

We must therefore add to our breakfast:

Protein, 20 − 10 or 10 grams
Carbohydrate and fat, 100 − (52 + 4) or 44 grams

Shrimps are rich in protein and are suitable to serve with rice; therefore if four or five are added to the meal they will furnish some additional protein. A small piece of lean meat may be substituted for the shrimps.

The egg might be omitted from the breakfast plan and a little more shrimp added to the rice and about the same amount of protein would still be present, but the egg is more valuable because it furnishes the growth-producing vitamin A which is needed by a growing girl or boy. It also furnishes vitamin B and fat while the shrimp does not. The egg is also rich in phosphorus and contains some calcium and iron.

One level tablespoonful of butter served with the egg will improve the flavor and will add some fat. Butter is about eighty-five per cent fat and the remainder water. Butter made from cow's milk is rich in the fat-soluble vitamin A. Coconut butter will furnish practically the same amount of fat but it contains no vitamins. (See Table II.)

No meal should be considered well planned unless it contains a fruit or a green vegetable. For breakfast a fruit is preferable. Reference to the tables will show that many fruits are largely water, though sometimes they contain a very little protein and a little fat and sugar. Some solid fruits, as bananas, contain a considerable amount of energy food in the form of sugar. The great value of fruits, however, lies not in the amount of energy foods or of building foods which they contain but (1) in their pleasing flavor which stimulates the flow of digestive juices, (2) in the fact that practically all fruits are rich in minerals (3) in their cellulose content, and (4) in the fact that they are a valuable source of vitamins. The minerals are in a form that is very easily absorbed by the blood, and since we eat most fruits raw, there is no chance that either of the vitamins A or C will be destroyed by heat. We do not wish to add much more energy or building food to this meal, so papaya has been selected because it is a watery fruit and contains very little protein and not much carbohydrate. (See Table IV.) About one-fourth of a medium-sized fruit, or about two hundred grams, makes an ordinary helping.

A warm drink is very desirable for breakfast especially for one who does not take much exercise. The warm water or milk of which the drink is made stimulates the intestines to action so that early in the day they may begin to push along the waste material. Chocolate is a good breakfast drink for young people. It is rich in both fats and carbohydrates, and in addition contains protein. Since only a small amount of chocolate is used in making a cupful to drink, it does not add much in food value to the diet. Sugar, however, adds a little energy food if one or two teaspoonfuls are used, for white sugar is one hundred per cent carbohydrate. If the chocolate is made partly of milk instead of entirely of water, the food value of the drink is of course increased, and the milk used is a valuable source of minerals and of vitamins if it has not been heated so hot as to destroy the latter.

In considering the dinner menu we find that the main dish is mongos cooked with a little fat pork. This with corn bread or corn cake should make the main part of the meal.

Mongos are a cheap food. Reference to Table II shows that they are rich in protein as compared with other foods, and that they also contain a large percentage of energy foods.

One cup of dried beans (mongos) weighs about one hundred and seventy grams. (See Table VI.) Then one-half cup will weigh eighty-five grams. Using Table III, we see that eighty-five grams of mongos will supply fifteen grams of protein (18 per cent of 85 grams) and fifty-three grams of carbohydrate (62 per cent of 85 grams). The amount of fat is so small that it may be disregarded. Table II shows that dried beans have a considerable amount of vitamin B. What is the use of vitamin B? Table III again shows that mongos are rich in minerals.

The piece of meat should be largely fat. It should be about two-thirds the size of an egg. It will weigh about thirty grams and will supply about twenty grams of energy. In addition it will give a pleasing flavor to the mongos.

The corn cake or corn bread will vary somewhat in food value depending on the recipe and the amount of fat and sugar used, but the average helping (a piece about 6 x 6 x 3 centimeters) will furnish about thirty grams of energy and about five grams of building foods.

Peanuts are a very valuable food when served with mongos. This is true because the mongo proteins are incomplete. If sufficient peanuts are added to this meal to furnish about one-tenth as much protein as the mongos, the protein of the latter will be made much more valuable because the amino acids in the peanuts will serve to fill the place of those absent in the mongos. The proteins of all beans should always be supplemented. Peanuts are excellent for this purpose, and at the same time furnish fat and carbohydrate food. (See Table V.)

Fruit salad furnishes some energy in the form of sugar and also a small amount of protein. The great value of a fruit salad, however, is usually not in its protein and carbohydrate content but in its vitamins, minerals, acids, and flavor. If it is desired to add more energy food to the meal, fruits rich in sugar like bananas may be added to the salad which may be served with a rich dressing. The dressing used with a salad may add considerable fat to a meal. The pupil should study the ingredients of differents salad dressings on pages 295 and 297 to see which dressing furnishes the most energy.

If the dinner is to be simple, enough different kinds of food have already been given, but if it is desired to have more variety, eggplant may be added. This will furnish minerals, vitamins, bulk, some energy, and a very little protein. Or if the meal is to be served to an athletic girl, a medium-sized sweet potato (camote) may be added instead of the eggplant. The sweet potato will furnish much more carbohydrate (compare the composition of the two vegetables in Table III). Sweet potato also contains vitamin A. Butter may be served with the sweet potato to add more fat. What else may the butter add?

For the supper, the main dish consists of meat stew with vegetables and unpolished rice. The vegetables add a desirable flavor to the stew and also furnish some minerals and vitamins. When the vegetables are stewed with meat the minerals which they contain are not lost because the water in which they are cooked forms a part of the stew.

The water in which vegetables are cooked always contains a large amount of the minerals which have dissolved out of the vegetables. When this water is thrown away a large proportion of the minerals is lost. When the water will not form a part of the food, the best way to cook green vegetables is to steam them over boiling water. When this is done only a very slight amount of the minerals is lost. If it is not possible to steam the vegetables, they should be boiled in very little water.

Long cooking destroys all of vitamin C in fresh vegetables except tomatoes, and probably most of vitamin A. For this reason, when vegetables are boiled with meat, for example, they should be added after the latter is partly cooked so that they need not cook so long. When properly prepared, green vegetables and green leaves are not cut up into small pieces nor cooked so long that they are like mush. Leaves should still be whole. Why?

Lean meat is deficient in calcium and in vitamins. The small amount of vitamin C contained is probably all destroyed in the cooking process. Since the few vegetables that are cooked with the stew will not supply these deficiencies, the mustard leaves have been added to the menu. Green leaves of all kinds are the best carriers of vitamins and minerals. They also contain small amounts of energy and building foods. The leaves should be carefully cooked so that the vitamins, especially vitamin C, may not be destroyed and so that the minerals will not be wasted. Vinegar is used only to add flavor to the leaves for it has practically no food value.

Tomatoes furnish some energy and some building food. The amount of protein in the tomato is small but it is of a very high quality, that is to say, amino acids are present in the proper proportions. Tomatoes are also very valuable because of the vitamins they contain. They are especially rich in vitamin C, and since the tomatoes are eaten raw none of vitamin C is lost. It is likely that even with careful cooking a large part of this vitamin contained in the other vegetables and the mustard leaves has been destroyed.

If it is desired to add more energy food to the meal it may be done very easily here by serving a rich salad dressing with the tomatoes.

If polished rice is used instead of unpolished rice for this diet, greater care must be taken to select plenty of foods rich in minerals and in vitamin B since polished rice is deficient in these. If bread instead of rice is used for breakfast, the same problem is present as if polished rice were eaten, for when wheat is ground into flour the outer covering and the germ of the grain are removed and with them all of vitamin B. In places where people eat white bread without enough other food, beriberi is a common disease.

A pupil in working out a balanced diet may not have at hand any way in which to find the exact amount of protein or of carbohydrate furnished, when she desires to prepare some food not given in the reference tables. However, enough information is given in the tables to enable her to form a very accurate estimate of the amounts of protein or of carbohydrates in any food.

Reference to the tables shows that all fruits with few exceptions are much the same in composition; that all green vegetables are much the same; that roots, such as sweet potatoes, gabi, or ubi are similar; that all lean meats are rich in protein. The weight of a given amount of food may be very accurately estimated by comparison with Tables IV and VI.

A SCORE CARD FOR GRADING A MEAL.—The following suggestive form shows the points to be considered and the relative weights in percentage to be given to them when judging and grading a meal:

FORM FOR A DIETARY SCORE CARD

		Percentage
Food value		70 per cent.
Energy foods	10 per cent.	
Are they in the right proportion?		
Building foods	30 per cent.	
1. Are they in the right proportion? 2. Are they from the right sources?		
Minerals	15 per cent.	
Are calcium, phosphorus, and iron present in sufficient quantities?		
Vitamins	15 per cent.	
Are vitamins A, B, and C present in sufficient quantities?		
Cellulose or bulk		5 per cent.
Is enough bulk supplied?		
Selection and purchase		10 per cent.

1. Is the food clean, fresh, and of good quality?
2. Was the food produced under sanitary conditions?
3. Was the market in which the food was sold clean and sanitary?
4. Did the one who sold the food seem clean and free from disease?
5. Are the combinations of food pleasing?
6. Was too much money spent for flavor or appearance?
7. Was good judgment shown in the selection of foods not requiring too much time for preparation?
8. Could a cheaper kind of food have been purchased that would have had the same value in the diet?
9. Is the cost of the food within the means of the persons who will eat it?
10. Are many of the foods hard to digest?

Preparation and service.. 15 per cent

1. Was the food well cooked, was it cooked in the best way, was it well flavored?
2. Was there a waste of time in planning and preparing the meal?
3. Was the meal well served?

REVIEW

1. Name the different meals of the day, tell when each may be served and the general characteristics of each.

2. When planning a meal, what is the first thing to decide? Why is this? What do you mean by a "heavy" meal or by a "light" meal?

3. About how much does a cup of uncooked rice weigh? When this is cooked how many cups will there be?

4. How much carbohydrate in grams does a cup of uncooked rice furnish? How much protein? How much fat? (See the appropriate tables.)

5. Why are eggs so valuable in the diet?

6. Why are shrimps valuable? Which of the two do you consider the more valuable? Why?

7. Is coconut butter a valuable food? Why? Does it have the same value in the diet as other butter? Explain.

8. If a girl eats coconut butter and bread for breakfast, what other food may she eat at the same time that will help to give the coconut butter the value of cow's butter? Explain fully. (See Table II.)

9. Why are fruits appropriate to serve for breakfast? Why are they valuable in the diet?

10. Why is a warm drink desirable at breakfast? Why is coffee not a good drink for young people? (See page 87.) Do you drink coffee for breakfast?

11. How may a warm drink have more food value added to it?

12. What do you think of the custom that some girls have of going to school in the morning without breakfast? Why do girls do this? Can these girls do as good work as their companions who eat a warm breakfast?

13. Girls often go between classes to a tienda and buy something to eat, usually candy or cakes. Is this what is needed to nourish their bodies properly?

14. Do you think pupils in general buy the food they need at a tienda? Give reasons for your answer. What is it they need that they do not get?

15. What would you suggest to encourage tiendas near the school to furnish more desirable food? If the girls and boys, particularly the girls, requested different food would the tiendas be glad to carry it?

16. Why are mongos an important food?

17. Which is cheaper, a kilo of mongos or a kilo of meat? Which furnishes more food to the body? Make a table comparing the two and show what each furnishes.

18. Why is it very desirable to serve peanuts with mongos? Explain fully.

19. Why is a fruit salad of importance in the diet?

20. Do all fruit salads furnish the same amount of energy and protein? Explain. How may the amount be changed? What do you mean by saying that salad dressing is "rich?"

21. Discuss the value of eggplant. Discuss the value of camotes. Compare the values of the two.

22. When vegetables are cooked in water what happens to much of the mineral matter they contain?

23. What is the best way to cook vegetables in order not to lose the minerals? Why is this so?

24. What vitamins are usually destroyed by heat? How should vegetables and green leaves be cooked in order not to destroy the vitamins?

25. Why are green leaves valuable in the diet? Name five kinds that are good food?

26. Why are raw tomatoes so good a food?

27. If polished instead of unpolished rice is used in the balanced diet, or if white bread is used, what special care must be taken in selecting the rest of the meal? What would you add to supply the deficiency of these two foods? (See Table II, Section 3.)

28. Name five foods rich in minerals.

29. Name five foods rich in vitamins.

30. Name one important food rich in vitamin B.

31. Consult Table II. What foods are rich in the fat-soluble vitamin A?

32. What kinds of foods are rich in vitamin C?

33. Name some foods that contain no vitamins?

34. On the average, about what percentage of vegetables is water? About what percentage of fruits is water?

35. Since fruits contain so much water, is it economy to buy them? Why?

36. Name five foods rich in protein. About what percentage of protein do they contain?

37. Name five foods rich in carbohydrates.

38. Name five foods rich in fat.

39. Draw a banana, an orange, and three other fruits representing the actual size. Divide the drawing of each into parts showing the relative amounts of fats, carbohydrates, proteins, and water contained.

40. Make similar drawings of two vegetables.

41. When buying fruits or vegetables, why should we always take into consideration the amount that will be wasted in seeds, skins, etc.?

42. What is meant by "edible portion?" See Table IV.

43. Compare rice and flour as to (*a*) food value, (*b*) initial cost, and (*c*) cost and ease of preparation for the table. (See the reference tables.)

PROBLEMS

Plan balanced and well-selected diets to meet the following requirements:

1. Two successive days for a healthy seventh-grade schoolgirl
2. One day for a thin, underweight, seventh-grade schoolgirl

3. One day for an adult at hard labor.

4. Arrange each of these diets according to the suggestive diet plan on page 170 and fill in all data required.

5. Judge and grade each diet, using for reference the twelve essentials of a satisfactory diet listed on pages 167 and 168.

6. Plan, prepare, and serve a breakfast, a dinner, and a supper suitable for a healthy, seventh-grade schoolgirl.

7. Prepare score cards according to the form on pages 176 and 177 and judge and grade each meal.

REFERENCE TABLES

INTRODUCTION

The following tables are intended for reference only. There should be no attempt to memorize them, for time thus spent is wasted. All that the pupil should remember is the general composition of a few of the common foods. For example, she should know a few foods that are rich in protein and a few rich in carbohydrate or in fat, without any effort to remember the exact amounts contained. She should know approximately the amount of carbohydrate and protein in fruits and vegetables, the principal mineral foods, and the principal vitamin-bearing foods.

The mark + indicates that the substance is present, ++ indicates its presence in a larger amount, +++ indicates its presence in a still greater amount and ++++ indicates its presence in a very great amount.

TABLE I

MINERALS

COMMON FOODS THAT ARE RICHEST IN MINERALS

Food	Calcium	Phosphorus	Iron	Other minerals
Milk	++++	+++	+	All present.
Leafy vegetables, as spinach, pechay, lettuce, camote leaves, etc.	++++	++++	++++	Do.
Green vegetables, as squash, eggplant, onions, carrots, etc.	+++	+++	+++	Do.
Fruits	++	+	++	Do.
Eggs	+	+++	+	Do.

String beans (young beans eaten with the pods) should be mentioned as being especially rich in all minerals—probably richer than any other vegetable.

Unpolished rice is also rich in minerals but most of the minerals are removed when the rice is polished.

TABLE II

VITAMINS

COMMON FOODS CONTAINING ALL VITAMINS

Food	Vitamin A	Vitamin B	Vitamin C
Cabbage, fresh	++	+	+++
Cabbage, cooked	+	+	++
Potato	+	+	+
Beans and peas, germinated	+	++	++
Cereals, germinated	+	++	++
Liver	++	++	+
Cow's milk, whole, raw	++	+	+
Lean meat, raw	+	+	+
Carrots	+	+	+
Tomatoes	++	+++	+++
Oranges	+	+	+++

COMMON FOODS RICH IN VITAMIN A

Butter	+++	Mutton	+
Cod-liver oil	++++	Liver	++
Cream	++	Heart	++
Egg yolk	++	Cabbage, raw	++
Wheat germ and rice germ	++	Lettuce	++
Beef fat	++	Spinach	++
Unpolished rice	+	Carrots	+

COMMON FOODS RICH IN VITAMIN B

Eggs, yolk	+++	Beans and peas, dried	++
Wheat germ	+++	Liver, brain, pancreas	+++
Rice germ	++++	Fish roe	++
Yeast, dried	+++	Nuts	++

COMMON FOODS RICH IN VITAMIN C

Cabbage, raw	+++	Beans and peas, germinated	++
Lemon-juice	+++	Cabbage, boiled	++
Orange-juice	+++	Potato, boiled	+
Tomatoes	+++	Salads, fruit	++
String beans	++		

COMMON FOODS CONTAINING NO VITAMINS

Lard
Olive oil
Coconut oil
Coconut butter
Tea, coffee, chocolate, cocoa

Canned meats
Cheese (skim milk)
Honey
Jam
Fish, flesh

Milk, condensed.
White wheaten flour.
White cornmeal.
Polished rice.
Sago.

Green leaves as lettuce and pechay, contain all three vitamins but are richer in A and C than in B.

Seeds of all kinds, that is, nuts, cereals, legumes, contain vitamin B in large amounts in the germ and the outer layers. Vitamin C is not present until the seeds are sprouted.

Table II is compiled from *Vitamins and the Choice of Food* by Plimmer and Plimmer, and from other sources.

TABLE III

COMPOSITION OF SOME COMMON PHILIPPINE VEGETABLES

Vegetables [1]	Water	Fat	Proteins	Carbohydrates	Ash	Crude Fiber
	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
FRUITS						
Eggplant (talóng)	90.98	0.45	1.07	6.14	0.64	0.82
Squash (calabaza)	87.20	0.43	1.33	9.33	1.01	0.70
Cowpea (sitao)	86.75	0.18	2.65	7.49	0.90	2.03
Sponge gourd (patola)	94.58	0.13	0.63	4.25	0.28	0.13
Bottle gourd (upo)	95.44	0.09	0.50	3.34	0.37	0.26
Tomato (camatis)	94.32	0.23	0.99	3.20	0.62	0.64
Cowpea seed (mongo)	9.21	0.88	18.30	62.49	4.23	4.89
Breadfruit (camansi)	89.16	0.55	2.24	6.08	0.88	1.09
Papaya (papaya)	93.98	0.17	1.09	3.70	0.41	0.65
Cucumber (pepino)	94.14	0.19	0.52	2.39	0.46	0.30
Common bean (habichuelas)	15.07	1.70	18.09	57.06	3.80	4.28
Amargoso (ampalaya)	92.73	0.03	1.26	5.18	0.68	0.12
Sugar pea (guisantes)	85.08	0.26	3.88	8.71	0.72	1.35
Lima bean (patani) fresh seed	65.50	1.26	7.30	23.37	1.84	0.77
Wax gourd (condol)	95.90	0.46	0.17	2.56	0.37	0.54
LEAVES						
Cangcong (cangcong)	89.70	0.04	4.25	3.64	1.67	0.70
Sweet potato (camote)	84.20	0.42	1.15	10.25	1.98	1.90
Pechay (pechay)	92.97	0.34	1.00	4.64	1.26	0.79
Chinese mustard (mostaza)	91.30	0.31	2.06	4.43	1.10	0.80
Amargoso (ampalaya)	81.94	0.18	2.30	16.82	2.06	0.75
Cabbage (repollo)	91.86	0.28	2.03	4.13	0.79	0.91
Horse-radish tree (malungay)	76.67	1.10	7.30	11.04	2.14	1.75
Coriander (unsuy)	90.82	0.41	2.17	4.43	1.38	0.79
Celery (kinchay)	92.72	0.32	1.65	2.89	1.56	0.86
Endive (escarola)	93.25	0.23	1.62	3.01	0.94	0.95
Garlic (bauang)	88.01	0.32	2.20	7.27	1.03	1.17
Parsley (peregil)	85.70	1.39	3.82	4.82	2.75	1.52
Leek (cuchay)	91.92	0.55	1.88	3.63	0.92	1.10
Young onion (sibuyas)	89.14	0.34	1.27	6.71	0.74	1.80
ROOTS						
Sweet potato (camote)	71.20	0.52	0.65	23.37	0.91	1.35
Taro (gabi)	63.21	0.39	1.29	33.51	1.01	1.59
Yam (ubi)	68.70	0.05	2.86	27.31	1.45	1.03
Chinese radish (rabano)	94.14	0.16	0.82	3.64	0.69	0.55
Yam bean (sincamas)	84.47	0.12	0.82	8.93	0.38	0.28
Carrot (carót)	86.36	0.23	2.26	9.08	0.80	1.27
SHOOTS						
Bamboo shoot (labóng)	92.77	0.51	1.76	4.24	0.55	0.17
FLOWERS						
Banana flower (puso ñg saging)	92.67	0.81	1.99	3.35	1.02	0.66
Caturay (caturay)	88.75	0.92	1.97	--------	0.79	--------

[1] Edible portion only.

Words in parentheses are the names of vegetables as used in the markets of Manila.

Crude fiber (in the last column) is cellulose.

Table III is adapted from a similar table in the *Philippine Journal of Science*, Volume XI, A.

TABLE IV

COMPOSITION OF SOME COMMON PHILIPPINE FRUITS

This table shows that there is considerable waste in fruits. For example, the edible portion (the part we eat) of a mango is only 73 per cent of the whole fruit. The edible portion of a jak fruit is only 25 per cent. This means that there is a large amount of material in fruit that is not eaten.

This part is largely seeds and skin. The amount of a fruit that cannot be eaten should be considered when making the purchase, because, if 25 per cent of the fruit is thrown away, the price of the fruit has really been increased considerably.

The table also shows that a large amount of fruit is water. In the case of the mango for example, the protein, sugar, and ash make up about 14 per cent. The remainder is cellulose (largely seed and skin) and water—mostly water.

Fruits	Average weight of fruits as purchased	Edible portion	Proteins	Ash	Carbohydrates (Sugar)
	Grams	Percentage	Percentage	Percentage	Percentage
Ates	240	52	1.12	0.97	16.00
Banana	----------	----------	0.8	----------	14.80
Breadfruit	----------	----------	2.24	0.88	6.08
Camias	16	----------	0.61	0.40	2.21
Carabao mango	240	73	0.22	0.45	13.24
Chico	50	85	0.51	0.63	13.94
Cirhuelas	20	50	0.63	0.27	14.54
Condol	900	90	0.69	0.40	2.86
Datiles	1.5	80	1.98	0.80	13.49
Duhat	4	75	0.81	0.70	12.70
Guava	45	88	1.38	0.71	7.54
Guayabano	650	69	0.88	0.85	18.80
Jak fruit	8,000	25	0.42	1.23	22.98
Lanzon	20	80	1.13	0.59	13.42
Limoncito	0.8	80	1.40	1.05	4.90
Mabolo	300	55	0.75	0.83	10.88
Macopa	30	90	0.50	0.27	6.56
Mangosteen	100	31	0.50	0.23	17.48
Melon	770	75	0.24	0.52	3.31
Papaya	1,350	47	0.44	0.58	5.97
Pineapple	800	50	0.44	0.36	9.41
Pomelo	930	61	0.66	0.63	9.15
Santol	85	70	0.86	0.98	4.89
Tamarind, ripe pulp	----------	50	3.00	3.16	41.20
Watermelon	2,250	51	0.60	0.18	7.04

Table IV is adapted from a similar table in the *Philippine Journal of Science*, Volume VIII, A.

TABLE V

COMPOSITION OF OTHER COMMON FOODS AS PURCHASED

Food	Protein	Fat	Carbohydrate
	Percentage	Percentage	Percentage
Beans, dried	22.5	1.8	59.6
String, fresh	2.1	0.6	6.9
Beef, heart	14.8	24.7	0.9
Liver	20.2	3.1	2.5
Neck, medium fat	14.5	11.9	----------
Ribs, lean	15.2	9.8	----------
Round, lean steak	19.5	7.3	----------
Beets, fresh	1.3	0.1	7.7
Bread, average white	9.2	1.3	53.1
Butter	1.0	85.0	----------
Cabbage	1.4	0.2	4.8
Cheese, American	29.6	38.3	----------
Chicken	12.8	1.4	----------
Chocolate	12.9	48.7	30.3
Coconut milk	0.4	1.5	4.6
Coconut meat	5.7	50.0	25.6
Corn, green, fresh	1.2	0.4	7.7
Cornmeal	9.2	1.9	75.4
Crackers, soda	9.8	9.1	73.1
Cucumbers	0.7	0.2	2.6
Doughnuts	6.7	21.0	53.1
Eggs, uncooked	11.9	9.3	----------
Fish, average	10.0	2.6	----------
Flour, average white	11.4	1.0	75.6

TABLE V—Continued

Food	Protein	Fat	Carbohydrate
	Percentage	Percentage	Percentage
Honey	0.4	----	81.2
Lamb, breast	15.4	19.1	----
Lard	----	100.0	----
Lemons	0.7	0.5	5.9
Lettuce	1.0	0.2	2.5
Shrimp, whole	5.9	7.2	0.2
Milk, condensed, sweetened	8.8	8.3	54.1
Milk, whole	3.3	4.0	5.0
Molasses	2.4	----	69.3
Mushrooms	3.5	0.4	6.8
Nuts, average	6.0	17	3.0
Oatmeal	16.0	7.2	67.5
Okra	1.4	0.2	6.5
Onions, fresh	1.4	0.3	8.9
Oranges	0.6	0.1	8.5
Peanuts	19.5	29.1	18.5
Peas, dried	24.6	1.0	62.0
Peas, green	3.6	0.2	9.8
Peppers, green	1.1	0.1	4.6
Pineapples, fresh	0.4	0.3	9.7
Pork, chops, medium	13.4	24.2	----
Rice, uncooked	8.0	0.3	79.0
Salmon, canned	22.0	12.8	----
Spinach, fresh	2.1	0.3	3.2
Sugar	----	----	100.0

Table I is adapted from a similar table in *Food and Nutrition* by Sherman.

TABLE VI

WEIGHTS OF COMMON MEASURES OF FOOD

By reference to this table one may form very accurate judgment of the weight of the amount of food one desires to use, though the food and the measure may not be given in the table. Equal volumes of substances more or less similar in composition weigh approximately the same.

	Approximate weight in grams
1 cup beans, dried	170
1 cup cornmeal	140
1 cup Crisco	180
1 cup flour, sifted	115
1 cup macaroni, cooked	150
1 cup milk, whole	240
1 cup molasses	340
1 cup peanuts, shelled	125
1 cup peas, shelled	210
½ cup shredded coconut	40
½ cup shrimp (prepared for cooking)	92
1 cup sugar, brown	165
1 cup sugar, granulated, white	210
1 cup rice, uncooked	200
1 liter rice, uncooked	800
1 tablespoonful butter	15
1 tablespoonful brown sugar	10
1 tablespoonful olive oil	11
1 beet about 5 cm. diam.	55
1 carrot 8 or 10 cm. long	60
1 cucumber about 18 cm. long	270
1 egg, edible part	40
1 egg as purchased	48
1 onion, medium size, raw	85
2 slices pineapple 2½ cm. thick	230
1 slice white bread 8×10×2 cm.	40

Table VI is compiled from *Feeding the Family* by Rose and from other sources.

PART VII

SEVENTH-GRADE HOME NURSING

PART VII

SEVENTH-GRADE HOME NURSING

CHAPTER I

THE SICK ROOM AND ITS FURNISHINGS

INTRODUCTION.—Nothing is more helpful to the quick recovery of a patient than comfortable surroundings. In choosing a room for the patient, particular attention should therefore be given to such requirements as fresh air, sunlight, and freedom from noises and odors.

FRESH AIR.—An abundance of fresh air both day and night is necessary to help build up the tissues of the body. Prejudice against night air should be overcome, for the air at night is apt to be even purer and less dusty than during the day. Fresh air should never be shut out of the house either during the day or at night. If necessary, screens may be used to protect the patient from a direct draft.

SUNLIGHT.—Since sunlight is a great purifier and healer, it should be admitted to the sick room whenever possible if the eyes of the patient can be protected from strong light. The best plan is to have the window from which the light comes behind the head of the bed, for then the light may be admitted without disturbing the patient.

Sometimes the room has to be darkened during the first stages of an illness. In such cases, when the time comes to let in the light it should not be admitted all at once nor in full force, but gradually, day by day.

QUIET IN THE SICK ROOM.—The sick room should be as far from sources of noise and odors as possible. Quiet is absolutely necessary if the patient is to obtain needed rest. Household noises that are not noticeable in health may become very annoying during illness. It is essential although often difficult to keep household worries out of the sick room, especially if the patient happens to be the mother of the family.

Among the rules to follow to keep the sick room as quiet and as comfortable as possible are the following:

1. Do not whisper in or near the sick room.
2. Do not allow doors and windows to be closed noisily.
3. Use oil to keep hinges from squeaking.
4. Do not sit on or lean against the patient's bed.
5. Avoid loud talking, heavy walking, and clattering dishes.
6. Be cheerful always, for cheerfulness as much as anything else will give the patient courage in the fight against illness.

Essential Furnishings.—The sick room should be stripped of all unnecessary furnishings, but it should not be made too bare. Among the essentials are: a comfortable bed; one or two small tables; two or three comfortable chairs that are not rockers; clean white table covers which should be frequently changed; and a few fresh flowers and growing plants. Short washable window curtains may be necessary to soften the light and to insure privacy.

The Bed.—The bed should be soft and clean. The patient will not get all the rest and sleep that she needs if she lies on a very hard surface, which tires the muscles and presses hard on the bones. A bed is therefore far more conducive to comfort and repose than is a mat spread on the floor. If a bed cannot be provided, a patient will be more comfortable on a cot than lying on a petate on the hard floor.

The bed may be of wood or of iron with woven bejuco bottom, or of iron with steel springs. An all-iron bedstead is easiest to keep clean and free from bedbugs.

The bottom of the bed may be covered with a mat or with several thicknesses of folded blankets, or with both. The blankets will make the bed softer and more comfortable, and warmer if the weather is cold. Many persons like to use a thin mattress made of kapok to make the bed softer.

The Tables.—One of the two small tables may be placed near the bed to hold the patient's food tray. On this table there should also be a bell which the patient may use to call the nurse. If a bell cannot be supplied, a strip of bamboo placed within easy reach may be used to tap on the table or the bed when the patient desires to call someone. The other table may hold a bowl of flowers or may be left free to provide a place on which the doctor may write his orders, or the nurse may write out the patient's record.

The Chairs.—Comfortable chairs, but not rocking-chairs, should be provided. The latter are inappropriate in the sick room, for when sitting in them, people are almost sure to rock and thus annoy the patient.

FLOWERS.—Gifts of growing plants and of bright-colored cut flowers of mild fragrance are as a rule much appreciated by the sick. Flowers should be taken out of the room at night, and, to interest the patient, rearranged or renewed before they are returned the next morning.

CARE OF THE SICK ROOM.—Cleanliness and tidiness in the sick room are absolutely essential. Since a bare floor is easier to keep clean than a covered one, all mats and rugs should be removed. The room should be swept with a damp cloth pinned over the broom and dusted with a soft, damp cloth. Soiled clothing and body wastes should not be kept in the room an instant longer than necessary. Bedpans should be rinsed in cold water before they are washed in hot water, because the albumin in the urine becomes hardened by heat and difficult to remove. The food tray, dishes, and glasses should be removed from the room as soon as the patient has finished with them. Medicine bottles and all necessary utensils should be kept in an adjoining room if possible.

PRACTICAL WORK.—Arranging a sick room.

REVIEW

1. Name three points to be considered in the selection of a room for the sick.
2. Should we close our windows at night?
3. Why do some people believe that night air is unhealthful?
4. Tell some of the things that may be done to keep the sick room quiet.
5. Name some of the essentials in furnishing a room for the sick. Can you name others not mentioned in the chapter?
6. About how high should the patient's bed be?
7. Why should the bottom of the bed be covered with blankets, with some soft material, or with a mattress?
8. Why does a patient rest more comfortably on a bed than on the floor?
9. Why is it desirable to have flowers and growing plants in the sick room?
10. How should the sick room be cleaned?
11. If possible, visit a hospital, note the furniture and the position of the bed in one of the rooms, and note the cleanliness of everything.

CHAPTER II

MAKING THE BED

INTRODUCTION.—One of the first as well as one of the most important things to be learned in connection with home nursing is how to make the bed.

AIRING THE BED CLOTHES.—If the bed has been previously occupied, the pillows, the sheets, the blankets, and the mats or mattress should be removed one at a time and placed on chairs or hung up in the direct sunshine. The bedstead should then be thoroughly dusted with a damp cloth. Dust should not be allowed to accumulate on any part of the bed. When the bedding has been aired sufficiently, it should be replaced. If the mattress is not inclosed in a slip, it should be covered with a pad before the bottom sheet is put on.

PUTTING ON THE SHEETS.—The middle fold of the bottom sheet should be placed in a straight line over the middle of the mat. If the sheet is long enough, about forty-five centimeters may be left at the top of the bed. The sheet should lie perfectly straight, should be tightly stretched over the bed, and should be tucked in at the sides and corners.

Directions for making the "corner envelope" as it is called, or tucking the sheet in at the corners, are as follows:

1. Spread the sheet straight on the bed.
2. Tuck the sheet well under the mat along the head of the bed.
3. Then, catching hold of the sheet at the side, pull the folded under part firmly toward you to smooth and straighten it under the mat.
4. Take hold of that part of the sheet which is a continuation of the part covering the end of the mat, and after pulling the sheet until it is tight over the end of the mat, lay it smoothly along the side.
5. Tuck the part of the sheet that falls below this well under the mat.
6. Still holding the sheet firmly against the side of the bed, bring over the part above and tuck it under the mat. If correctly done, the sheet should form a diagonal fold at the corner of the mat.
7. After folding and tucking in the two ends of the sheet in this way, push the sides of the sheet under as far as they will go.

When making the bed, one should be careful not to drag the corners of the sheets and covers on the floor.

THE BED CLOTHES.—The most satisfactory sheet is ninety centimeters longer and ninety centimeters wider than the mat, or mattress, which it covers.

The counterpane should be put on evenly and smoothly and either turned back and covered by the top sheet or used to finish the bed. A clean sheet may be used as a substitute.

After the sheets and the counterpane have been put on the bed, the pillows should be shaken and put in position.

A good mosquito net over the bed is essential to the comfort of the occupant, whether ill or well. No bed should be considered complete without a net.

PRACTICAL WORK.—Preparing a bed for a sick person

REVIEW

1. Tell how to air the pillows, the sheets, and the other bedding.
2. How long should a sheet be?
3. What is the best material to use in making a mosquito net? Why is a mosquito net essential?
4. What is the approximate cost of a good net for a single bed?
5. Have you ever examined a bed in a hospital? Did you notice how carefully the bed was made up, how smooth the covers were, and how neatly arranged the pillows? If so, see if you can make a bed just as well, following the directions given in this chapter.

Chapter III

CHANGING THE SHEETS WITH THE PATIENT IN BED

Since there are several methods of changing the sheets with the patient in bed, the one to be used will depend on the patient's condition and on the nurse's preference.

If the Patient is Fairly Strong.—The following procedure is satisfactory when the patient may be turned over on her side:

1. Put the patient on her side, with her back toward you.
2. Remove the counterpane and blankets, leaving the top sheet only.
3. At the side from which you work, loosen the bottom sheet both at the head and at the foot of the bed. Then lay it in folds or gather it loosely together, and push it up close to the patient.
4. On a table—not on the patient's bed—lay the fresh sheet in long, smooth folds, leaving one side unfolded to be tucked under the edge of the mat.
5. Lay the fresh sheet on the mat and tuck in the unfolded side the whole length of the bed.
6. Push the folds of the sheet close to the back of the patient and turn the patient over with her face to the side of the bed covered by the clean sheet. Then go to the other side of the bed, where both the soiled and the clean sheet will be at the back of the patient.
7. Remove the soiled sheet. Smooth out the clean sheet and tuck it in.

If the Patient is Very Weak.—With a very weak patient it is easier to work from either the head or the foot of the bed. Working from the foot of the bed may be better (1) because it is easier to reach than the head, which is often against the wall, and (2) because it may disturb the patient less.

If the nurse works from the foot of the bed, the procedure is as follows:

1. Loosen the bottom sheet and push it up from the foot of the bed.
2. Fold the clean sheet crosswise and tuck it in at the foot of the bed. Be sure not to tuck in too much.
3. Lift the feet and draw up both sheets. Then lift the legs and work the sheets farther upward. If the patient is strong enough, bend her knees and let her help raise her buttocks

4. After this put your arm around the patient and raise her shoulders and head, pull the pillows out, and draw up the two sheets. Remove the soiled sheet, replace the pillows, and lay your patient down.

5. Tuck the top of the sheet under the mattress and fix the corners.

When changing from the head of the bed, the order is reversed.

IF THE PATIENT IS UNCONSCIOUS.—If the patient is unconscious or absolutely helpless, a second person should assist in changing sheets. Then, with one person at each side of the bed, the sheets can be drawn along and the patient lifted with little trouble.

CHANGING THE UPPER SHEET.—To change the upper sheet, lay it over the top of the soiled sheet. If the patient is not too weak to help, let her hold the top of the clean sheet as you slip the other from under it. If the patient is too weak to assist, tuck the corners of the clean sheet under her shoulders, then carefully remove the soiled one.

PRACTICAL WORK.—Changing the sheets with the patient in bed in accordance with the three types of procedure.

CHAPTER IV

LIFTING AND MOVING A PATIENT IN BED

When lifting the patient to turn the pillow or to adjust the sheet or gown, stand at the right side of the bed. Let the patient put her arms around your neck. Then put your left arm around and under the shoulders and lift, leaving your right arm free for the work.

To move the patient to the side of the bed, slip your arms under her shoulders and hips and draw her toward you.

PRACTICAL WORK.—Lifting and moving a patient in bed.

CHAPTER V

CHANGING THE NIGHTGOWN

If the patient is to be kept in bed for a long time, the nightgown should be split part way up the back. It is then easy to change and makes one thing less to keep smooth under the patient's back. If the nightgown has not been split up the back, it may be removed in the following manner:

Draw the skirt of the gown well up from under the buttocks, slip one sleeve off, and lift the gown over the patient's head. Then slip the other sleeve off.

The clean gown may then be put on in the following manner:

Slip one sleeve on and put the gown over the patient's head. Slip the other sleeve on and then pull the gown down under the patient. If the patient is weak, put your hand through the bottom of each sleeve and, catching hold of her hand, pull it through the sleeve.

PRACTICAL WORK.—Changing the gown of a patient.

CHAPTER VI

ARRANGING PILLOWS

INDIVIDUAL PREFERENCES.—Every patient has some individual preference as to the way she wants her pillows arranged. The nurse should, therefore, learn to arrange the pillows as the patient desires.

THE USE OF SMALL PILLOWS.—Much can be done with small pillows to make the patient comfortable. Placing a small pillow under the patient's abdomen when she is lying on her side may relieve abdominal pain. Placing pillows of different sizes under the knees may relieve strain when the patient is lying on her back. Placing a pillow under the feet, or between the feet and the foot of the bed, may keep the patient from slipping down in bed and may prove very restful to her. Small pillows may be put under the elbows, under the hollow in the back, and in fact almost anywhere that support is needed.

If the patient cannot turn in bed, the nurse may run her hand under one shoulder or side, lift the patient a little, and place a small pillow under her side.

A good nurse, in addition to giving medicines properly and waiting on the doctor, remembers the little things that can be done to relieve the strain and nervousness of the patient.

PRACTICAL WORK.—Arranging pillows for a patient.

CHAPTER VII

BATHS

INTRODUCTION.—If everyone knew how important baths are in the prevention and in the cure of disease and how much they add to bodily comfort, the daily bath would never be omitted in either sickness or in health. For herself, the nurse will find a cold bath followed by a brisk rub before breakfast a wonderful stimulant for her day's work, especially if her sleep has been broken with night work.

The Value of the Bath.—During illness, thorough cleanliness of the body is a great aid to rapid recovery. Unless contrary to the physician's orders, a patient should have a bath every day. An extra need for the use of soap and water exists at this time, especially when there is any fever, because then the pores of the skin need to be kept open. Since the muscles do very little work while the patient is in bed, a little rubbing after the bath each day will be most beneficial. When rubbing the patient's body, the nurse should use a little vaseline or cold cream on the hands to make them pass smoothly over the skin.

The Time for the Bath.—The patient's bath should usually be given an hour or two after breakfast, but sometimes it will be found restful at bedtime. In either case, the rule of allowing one hour between a meal and the bath should not be broken. The bath stimulates circulation and takes from the stomach some of the blood required for digestion. For this reason, indigestion, nausea, and headache frequently follow a bath taken immediately after eating.

Preparations.—The following preparations should be made before giving the bath:

Have ready clean sheets; a blanket; a clean nightgown; two or three bath towels; a face towel; two washcloths; soap; alcohol; a large basin; powder; a slop jar or pail; a low table, stool, or chair for the basin; and hot and cold water.

Procedure.—To give the bath, proceed in the following manner:

1. Slip the blanket under the patient. If it is not wide enough to cover the patient and allow the ends to overlap, the patient should be covered with a sheet.
2. Take off the nightgown.
3. Bathe the body in the following order: face, ears, neck, arms, chest, abdomen, feet, and legs. Then turn the patient on her side and wash her back. While she is in this position, rub the back and the shoulders with alcohol.
4. Be careful to dry between the fingers and around the ears.
5. Expose only one portion of the body at a time and that no longer than necessary. Dry each part well before going on to the next.
6. In order not to fatigue the patient, work as quickly as possible.
7. Don't be afraid of using plenty of water but at the same time be careful not to have the washcloth so wet that it will drip all over the blanket and the towels.

8. Change the water in the basin at least twice—once after bathing the trunk and once after bathing the feet and the legs.

9. If the patient is not too weak, put her hands and feet into the basin, because she will find this very refreshing. To put the feet into the basin, set it on the bed, steady it carefully, bend the patient's knees, and lift the feet and put them into the bowl one at a time.

10. When the bath is finished, remove the blanket and put on the clean nightgown.

The nurse should never lose sight of the fact that she is working for the comfort of the patient. If she appears tired or nervous after the bath, it is better to leave the combing of the hair or the cleaning of the teeth until a little later in the day. The nurse should not insist on a fixed routine regardless of the patient's feelings or strength.

COLD SPONGE BATHS.—Cold sponge baths are given to reduce fever. When giving a bath of this kind, place the patient between two blankets. Then with a soft sponge or washcloth and cold water, proceed as you would in giving a bath for cleansing purposes except that you do not wipe the patient dry but leave each part of the body slightly exposed so as to allow it to dry by evaporation. Ordinarily, the water used may be of room temperature, but if the patient's fever is very high, ice may be added to make the water colder. If the patient is very nervous and objects seriously to the cold, do not insist on the use of ice in the water, for the nervousness and complaining of the patient will largely counteract the beneficial result that might be obtained from the ice water. The bath should take from fifteen to thirty minutes. The strokes with the washcloth should not be too heavy; they are generally up, but their direction makes little difference. Cold cloths or an ice bag should be kept on the patient's head and if necessary a hot-water bottle at the feet. If the temperature of the patient is taken just before and then about thirty minutes after the sponge bath, the effect will be shown by the difference in the patient's temperature.

SODA BATHS.—In some fever cases, when the skin is irritated as in measles, or when there is an eruption of the skin as in prickly heat, hives, etc., the doctor may order a sponge bath with bicarbonate of soda solution. In giving a bath of this kind about two level tablespoonfuls of the bicarbonate of soda should be completely dissolved in every liter of water.

PRACTICAL WORK.—Giving the patient a bath.

CHAPTER VIII

CARE OF THE HAIR

BRUSHING, COMBING, AND BRAIDING THE HAIR.—Every woman likes to keep her hair in order, even during illness. A dainty cap is sometimes worn but does not take the place of well-brushed and well-braided hair, particularly when the patient has to lie flat on the pillow.

The custom of wrapping up a patient's head should be discouraged. A feverish person needs plenty of fresh air. Wrapping the head in a towel or a handkerchief has no curative effects whatever but tends to produce greater discomfort.

When combing the patient's hair, protect the pillow case with a towel. Never use a comb or brush that has been used by others, for diseases of the scalp may be spread in this way.

When combing tangled hair, always hold it firmly between the tangle and the head to avoid pulling. Rub a little vaseline or coconut oil into the scalp to make it easier to get the snarls out. To avoid tangles, brush and braid the hair every day. Part the hair in the middle, brush and comb one side at a time, beginning at the end of the hair and working gradually toward the head. Hold the hair firmly in order not to pull it and in order not to jerk the head. Make two braids, one on each side. Do not braid so tightly as to form hard lumps or knots uncomfortable to lie on.

MASSAGING THE HEAD.—Gently rubbing or massaging the patient's head at night will soothe her nerves and induce sleep. It is also a preventive against loss of hair after an illness.

WASHING THE HAIR.—When the hair is washed, protect the pillow and the bed with oilcloth covered with a bath towel. Pull the pillows down under the patient's back so that the head extends somewhat beyond them and over a basin of water. Support the head with one hand while you wash it. Have plenty of warm water to rinse the soap out thoroughly. Dry the hair well after washing.

PRACTICAL WORK.—Gently massaging the patient's head, combing, and arranging the patient's hair.

CHAPTER IX

CARE OF THE MOUTH

The mouth requires much care during illness. Before and after meals, especially when the patient is on a milk diet, a simple mouth wash is most refreshing. Equal parts of listerine and pure water make a good mouth wash and with this, the gums, the teeth, the roof of the mouth, and the tongue of the patient should be cleaned. Common table salt and water also make a good solution for washing the teeth and the mouth. In fever cases, when special care of the mouth is necessary, the doctor usually prescribes the mouth wash to be used.

When the patient cannot brush her teeth, the nurse should take a flat piece of thin wood wrapped in gauze, dip it in the mouth wash, and wash gently all around the mouth and the teeth. A number of flat pieces of thin wood should be on hand for this purpose, since three or four of them will be required for each washing.

PRACTICAL WORK.—Helping the patient to wash her mouth and brush her teeth.

CHAPTER X

CARE OF THE NAILS

The care of the patient's nails is an important matter. They should be kept well trimmed and clean. Since the dirt under the finger nails affords a place for disease germs to grow, a person who bites her nails may become infected from germs in the dirt under the nails. In the case of an infectious disease, such as typhoid fever or tuberculosis, dirty nails may be a source of infection to other people. The cleaning of the nails with a nailbrush and warm soapsuds, followed by rinsing in plain water, should therefore be a part of the daily routine. The nails should be cleaned and trimmed while they are still damp and the cuticle gently pushed back to prevent the formation of so-called hangnails.

PRACTICAL WORK.—Caring for the patient's nails.

CHAPTER XI

SUPPORT FOR THE PATIENT'S BACK

When the patient is able to sit up, some form of support for the back will be needed. A straight-backed chair turned upside down with the feet toward the head of the bed and with the back inclined toward the patient will make a good support. The back of the chair should be covered with pillows, the first placed under the small of the back and the last one (a smaller one) placed under the head.

PRACTICAL WORK.—Arranging a support for a patient's back and arranging pillows for the patient. The patient should be in bed at the time the support is arranged.

CHAPTER XII

PREVENTION OF BEDSORES

The prevention of bedsores is one of the most important considerations in caring for the sick. They are caused (1) by pressure from the weight of the body on bony parts such as the end of the spine, the elbows, the hips, etc., (2) by moisture, (3) by wrinkles in the bedclothes, (4) by crumbs in the bed, and (5) by lack of cleanliness.

To prevent bedsores, the bed should be kept perfectly smooth and the parts of the patient's body that are liable to become affected should be rubbed with alcohol and dusted with talcum powder. The rubbing should be done in deep small circles. The object of this is to keep up the circulation of the blood since bedsores are caused by lack of circulation due to the constant pressure of the body against the bed. Small pillows and pads placed under the patient help to relieve this pressure. All pillows should be shaken and turned frequently. If the patient changes her position often, there will be fewer chances of starting bedsores. If a break in the skin occurs, the doctor should be told of it at once so that proper orders for its treatment may be given without delay.

PRACTICAL WORK.—Arranging the bed and giving the patient treatment to prevent bedsores, while she lies in bed.

CHAPTER XIII

TEMPERATURE, PULSE, AND RESPIRATION

INTRODUCTION.—During illness the heartbeat and the breathing are disturbed, and the skin often fails to do its work properly and becomes dry and hot. In health, a small amount of water constantly escapes from the sweat-glands to the surface of the body and not only keeps the skin moist, but by evaporation keeps the skin and the body cool. You probably have noticed that a porous jar, which permits a little water to pass through it all the time and to evaporate on its surface, is a very good vessel in which to keep drinking water. The constant evaporation of the small amount of water all over its surface keeps both the jar and the water contained in it cool. In the same way the evaporation of perspiration from the skin keeps the body cool. In health, the skin is able to control the body heat by the amount of perspiration that it pours out over the surface of the body. We would become very much warmer when we exercise, since our respiration and heartbeat are more rapid, were it not for the fact that at such a time more perspiration is poured out through the skin. During illness the skin often fails to do this work properly or even at all, and the body becomes hot and uncomfortable.

The nurse may gain much information about the course of a disease by carefully watching the heartbeat, breathing, and temperature. It is, therefore, necessary in almost every case of illness to take the temperature and to record the frequency of the patient's pulse and respiration. The home nurse should understand how these measurements are taken.

NORMAL CONDITIONS.—In good health the ordinary or normal temperature of the body is 36.9° C. (98.4° F.) whether we are running or sleeping.

The normal rate of breathing in an adult is from 18 to 24 times a minute; in a child, from 20 to 30 times a minute.

The normal rate of the pulse in adults is about 72 times a minute, but it is much higher in infants and lower in old people. Since each beat of the pulse is caused by a beat of the heart, if the pulse beats 72 times a minute, this means that the heart beats 72 times a minute.

TAKING THE TEMPERATURE.—When a person has a fever you can usually tell it by simply putting your hand on the person's forehead. If the skin feels dry and much warmer than yours there is usually some fever present. But this is not an accurate or satisfactory way for a nurse to take the temperature of a sick person.

To take the temperature of the body properly, use a clean sterile clinical thermometer. Shake the thermometer until the mercury falls below normal. Then insert the bulb end into the patient's mouth, well under the tongue, and have the patient close the lips firmly for three minutes. Unless the lips are kept tightly closed all the time, the true temperature of the body cannot be obtained. At the end of three minutes remove the thermometer and note the exact position of the mercury. If the patient moistens her lips before the thermometer is inserted, she may be more comfortable and there will be less likelihood that cooler air may enter the mouth. The home nurse should be sure that she takes the temperature accurately.

After taking the temperature, dip the bulb of the thermometer in a little alcohol or in some other disinfectant, to guard against infection. Then wash the thermometer in luke-warm water, dry it with a clean cloth, and put it in a place where it will remain clean.

In fever cases, the thermometer because of its frequent use, should be kept standing in a glass of alcohol. A piece of absorbent cotton or a small piece of folded cloth in the bottom of the glass will prevent the thermometer from breaking. When the thermometer is kept in alcohol, it should be rinsed in water and dried with a sterile piece of cloth or cotton before it is used. The glass should be kept closely covered to prevent the evaporation of the alcohol. If a bottle with a wide mouth and of the right height can be found, it will be the best type of container because it can be kept corked.

It is almost impossible to take the temperature in the mouth of a child under four years of age, for (1) it is difficult to keep him from biting the thermometer and (2) it is hard to make him keep his mouth closed firmly for three minutes. For this reason in the cases of very young children and of adults who are so sick that they are delirious or unconscious, the temperature is taken under the arm.

Variations in temperature and their meanings are as follows: 36.9° C. is normal temperature—a little above this indicates a slight fever; 38°–40° C. indicates high fever—we grow very anxious about the patient; 41° or 41.5° C. indicates a very high fever—the patient is not expected to live if his fever mounts higher than this.

TAKING THE PULSE.—Since the pulse indicates frequency and strength of heartbeats, the physician or the trained nurse may learn very much about the condition of the patient by noting the pulse rate. The pulse may be taken by placing the tips of the fingers along an artery near the surface of the skin and counting the beats for one minute. For a person of little experience it is best to take the pulse twice and to count the beats for two minutes each time, to insure greater accuracy.

The pulse is generally taken at the wrist, from the artery which comes near the surface on the thumb side, but it can be taken at the temple.

There is a pulse from an artery near the surface of the thumb which the nurse is apt to count if she places her thumb on the patient's wrist. She should, therefore, always use her fingers to take a pulse and never use her thumb.

The pulse rate may vary or change according to age. Excitement will also cause variations, particularly if there is any bodily weakness. If we find the pulse of a patient very high, we must consider whether the patient has been quiet or excited.

Among other things that will cause variation in pulse rate are running and other forms of exercise. The pulse rate is also (1) higher just after eating and (2) higher when one is standing than it is when one is lying down.

Characteristics that have to be noticed about the pulse besides its rate are (1) whether the pulse is regular or irregular in force and in frequency, (2) whether it misses a beat now and then, and (3) whether it is full and strong or small and feeble.

Respiration.—As has been said elsewhere, normal respiration in an adult is from 18 to 24 breaths a minute. It is very hard to note the respiration when the patient is conscious that it is being counted, because the respiratory movements are voluntary as well as involuntary and their rate can be changed at will. A nervous or hysterical patient will either decrease or increase her rate of respiration if she knows that it is being taken. For this reason, it is sometimes necessary for the nurse to count the respiration when the patient does not know that she is doing it. The facts to be noted about respiration are (1) its frequency—whether it is regular, or irregular, whether it seems to be hard or easy for the patient to breathe, (2) its depth—whether the breathing is deep or shallow, and (3) its expansion—whether or not the chest expands normally with each breath.

Practical Work.—The following exercises are suggested:

1. One girl takes the temperature of several different pupils, counts the pulse and the rate of breathing, and records the observations. She then decides if they are all normal or not.
2. Different members of the class take the temperature, rate of pulse beat, and rate of breathing of the same pupil and record them. Do all get the same results?
3. The temperature is taken under the tongue and then under the arm of the same girl. Are the results the same?
4. Different members of the class take the pulse of different girls and decide if the pulse is regular or irregular, strong or weak. The proper records are made.

REVIEW

1. Name three functions of the body that are disturbed during illness.
2. Why does the temperature of the body usually rise during illness?
3. Does the body temperature rise during exercise if one is in good health? Explain.
4. What is the normal temperature of the human body? Explain what is meant by normal.

5. Discuss variations in temperature and their meanings.

6. What is the normal rate of breathing in adults and in children? The normal pulse rate?

7. What is the relation between the pulse and the heartbeat?

8. Why must you use great care to keep the clinical thermometer clean?

9. Why is it sometimes necessary to take the temperature under the patient's arm?

10. Give the normal pulse rate in an adult.

11. What may cause the pulse to vary?

12. What three things besides its frequency should the nurse note in the pulse beat?

13. What is the normal rate of respiration in an adult? What may affect the rate of respiration?

14. Is respiration related to the rate of the heartbeat? When one is increased is the other also increased?

CHAPTER XIV

MEDICINES

RULES FOR USING MEDICINES.—The following suggestions and warnings with reference to medicines should be kept in mind:

1. Keep medicines in a cool, dry place, and label them properly. Mark all poisons with large plain letters and keep them locked up.

2. Always give exactly the amount of medicine that the doctor orders—no more, no less.

3. Always give medicine on time. If a dose is due at ten o'clock, give it at ten, not at half past ten.

4. Medicines intended to be taken before meals should be given about twenty minutes before mealtime. Medicines intended to be taken after meals should be given about twenty minutes after the meal is finished.

5. Never give medicine without reading the label on the bottle twice—once before, and once after pouring it out. Wipe the neck of the bottle before replacing the cork.

6. When pouring medicine out of a bottle, hold the bottle with the labeled side up in order to avoid soiling the label.

7. Use spoons of standard size in measuring fluids.

8. Always shake the bottle before pouring out the medicine, because the sediment in the bottom is often the chief ingredient.

9. Recork the bottle immediately after pouring out the medicine. Many medicines contain substances that will evaporate and, if left uncorked, may become stronger or weaker than they are intended to be.

10. Spoons and glasses used in giving medicines should be washed immediately after they are used.

MAKING MEDICINES AS ATTRACTIVE AS POSSIBLE.—Medicines should be made as attractive as possible. If they are meant to be given hot they should be hot, and if meant to be cold should be cold. When possible, the taste of medicines should be disguised, especially when they are given to children. Some medicines that are very disagreeable may be taken through a straw. If the straw is placed well back in the mouth so that the fluid scarcely touches the tongue, much of the disagreeable taste may be lost. Since some medicines contain ingredients that are bad for the teeth, the use of a straw will protect the teeth.

Castor oil is made practically tasteless if a piece of ice is held in the mouth before the dose is taken and if the oil and the spoon used in giving it are cold; or if the patient sucks a piece of orange or lemon immediately before and after taking it. Another way of giving castor oil so that the taste is not detected is mixing it with a small quantity of soda water flavoured with sarsaparilla, lemon, or orange. In mixing the oil with soda water, care must be taken not to daub oil on the edge of the glass. The contents of the glass should be cold, and enough flavoring must be present. Still another way of making castor oil tasteless is to put half of the juice of an orange into a glass, add to this the oil, and on top of the oil pour the remainder of the juice.

When giving a medicine, put it into a clean glass that is small and dainty. Place the glass of medicine and a glass of water on a small tray covered with a small clean napkin. If the dose is thus made to look attractive, the disagreeable task of taking it will be much lightened.

It is best not to give medicines in food to children, because this may make them so dislike the food that they will refuse it later.

When a patient is extremely ill, medicines, particularly stimulants, should be given as regularly through the night as through the day. When the patient becomes convalescent, the night doses may be omitted. But it is always best for the home nurse to have the permission of the doctor before she omits a medicine or a stimulant.

Never take a medicine that has been prescribed for someone else. Although you may feel sure that you know the effects of each of its ingredients, there may be something in your physical condition (for instance, in the condition of your heart or kidneys) that may cause a medicine that has been prescribed for someone else to be injurious to you. When a doctor prescribes medicine for a patient, he is giving something that is needed to cure the illness. Different diseases require different medicines and the doctor knows best what the patient should take. Therefore in sickness, it is always best to consult a doctor in order to find out what the disease is and then to let the doctor give the kind of medicine required.

PATENT MEDICINES.—All drug stores sell preparations usually called patent medicines. These preparations are often not medicines at all or, if they do contain certain drugs, may not provide the kind that the patient needs. Many persons instead of going to a doctor when they are sick, make the mistake of going to the drug store and buying patent medicines of which they know nothing. These medicines are advertised to cure practically all kinds of sickness such as tuberculosis, headache, indigestion, general weakness, malaria, colds, rheumatism, etc. One kind of medicine is often advertised to cure many kinds of diseases. You can see these advertisements on the labels, in pamphlets, and on cards and in newspapers, magazines, etc.

These advertisements do not deceive the doctor but they do often deceive persons who are ignorant. Many of these preparations contain harmful ingredients such as morphine, cocaine, alcohol, coal-tar products, etc., and may do great harm. Read pages 172–175 and 387–393, in *Sanitation and Hygiene for the Tropics*. This will tell you many ways in which patent medicines are harmful. Other patent medicines, while they may not contain dangerous ingredients, contain none that are helpful to a sick person and may also do great harm because (1) the sick person often spends uselessly money that should be spent for good nourishing food, and (2) the sick person who needs a doctor's advice and proper treatment immediately, often takes medicines that cannot cure her and delays getting proper treatment. During the delay the disease advances and takes a firmer hold and the patient naturally grows weaker.

There are some patent medicines that may help cure certain diseases and some may possibly have a good effect upon the health. But the one who spends her money for such medicines always pays a high price for something that she could buy much cheaper. For example, there are certain patent medicines advertised as being very beneficial to the health because they contain iron or phosphorus; others are advertised as being beneficial because they contain vitamins. Such advertisements may deceive the ignorant, but they should not deceive the girl who has studied seventh-grade cooking. We have already learned that the great source of minerals and of vitamins is green vegetables. Green vegetables are much cheaper, much more reliable, and probably a much more abundant source of minerals and vitamins than are patent medicines, and one who eats enough green vegetables every day has no need for such medicines. Why should one pay a peso or more for a bottle of patent medicine that contains a small amount of mineral or vitamin when if one buys intelligently one can get at the market for ten centavos foods containing a much greater supply of these valuable substances.

There are few evils in the world greater than those connected with the taking of patent medicine. One should never buy medicine from a drug store and take it without knowing something of its contents.

PRACTICAL WORK.—Measure out a dose of medicine (using water or sugar), give it to a patient, take all necessary precautions, and demonstrate different ways of giving it.

Find all the advertisements for patent medicines you can, read, and discuss them. Does it seem reasonable to you that the medicines can cure all the kinds of illness they claim to cure? Explain.

REVIEW

1. Why should all medicines be labeled?
2. Why should we always give exactly the amount of medicine that the doctor orders?
3. Why should medicines be given at the exact time that the doctor orders?
4. Why should one always read the label carefully before giving a medicine?
5. Demonstrate the way to pour medicine from a bottle.
6. Why should one always shake the bottle before pouring out the medicine? Why replace the cork immediately?
7. Tell five ways in which medicine may be made more attractive to the person who has to take it.
8. Why should one never take medicine that has been prescribed for another person?
9. Why is it well to consult a doctor when sick?
10. What are patent medicines?
11. What harmful ingredients do patent medicines sometimes contain? Why are these drugs harmful?
12. Give five reasons why we should not use patent medicines.
13. Make out a list of all the patent medicines you know. You should have at least ten or more in your list. Where will you look for advertisements of patent medicines?
14. Find pamphlets or other material advertising patent medicines. Do the cures that these medicines claim to make seem reasonable to you? Give reasons for your answer.

15. There is a patent medicine advertised as being very beneficial because it contains vitamin B. What food would you recommend that a person should eat in order to secure a proper amount of this vitamin? (See Table II in the Reference Tables of Part I.)

16. What sickness is caused by a lack of vitamin B in the food? When a person is sick with this disease, what is the best and quickest way to supply the needed vitamin? What is the cheapest way?

CHAPTER XV

LOCAL APPLICATIONS

HOT-WATER BAGS.—Hot-water bags are most commonly used for external warmth. The bag should be only half full of water and all the air should be pressed out before the stopper is put in. The top should be screwed on very firmly and the bag wrapped in cloth. One cause for leakage in hot-water bags lies in the fact that the little rubber washer around the stopper wears out and needs renewing. Hot-water bags may be bought in all sizes, from the small ones eight or ten centimeters long, which are very useful in cases of earache, to the large ones holding more than two liters. Aluminum hot-water cans are very useful since they retain their heat for many hours and are more durable than rubber bags.

Bags of hot salt or of sand are very good when dry heat is required. Bags of this kind should be covered with soft cloth. A hot brick or a stone wrapped in cloth may also be used to furnish dry heat. Strong bottles filled with hot water and securely corked may be used instead of hot-water bags, but they must be well covered and must not be placed too near the patient.

COLD COMPRESSES.—Sometimes, when a small area of the body is feverish or inflamed, a cold compress will help to lessen the pain. A cold compress for the head is generally used in case of fever and for headache. It often relieves the headache entirely and rests the patient.

A compress may be made of a small piece of soft cotton cloth folded with the raw edges inside. It should be kept cold by dipping it in water every few minutes and squeezing out most of the water. For this purpose a pan of cold or ice water should be at hand.

Cotton or some other soft material should be used for eye compresses. If there is a discharge from the eye, no compress should be used more than once, after which it should be burned.

LINIMENTS.—Liniments are liquid preparations generally used on bruises or sprains. They are chiefly valuable because of the rubbing that is done in their application. Liniments should be well rubbed in with the palm of the hand. Their action will be increased if the surface to be treated is washed with soap and warm water before the liniment is applied and afterwards covered with absorbent cotton held in place by a light bandage.

PRACTICAL WORK.—Preparing a hot-sand bag or a hot-water bottle and applying it to a patient. Preparing and administering a cold compress.

REVIEW

1. What is the use of hot-water bags and bottles?
2. What may be used in their place?
3. Why should a hot-water bag or bottle be carefully wrapped in cloth before it is applied to the patient?
4. What is a cold compress? What is its use?
5. What care should be taken when using compresses on the eyes? Why?
6. What is the use of liniments? What is their general appearance? Can you name two or three kinds sold at drug stores? Do you think they are of much use? Are they expensive?

CHAPTER XVI

VISITORS

One of the unsolved problems of the sick room is what to do with visitors, for they undoubtedly delay recovery in many cases. If those who visit the sick used more judgment, their visits could be of benefit rather than a cause of trouble. They should never tell a patient news or stories that may make her sad and they should always be as bright and as cheerful as possible.

When the patient is convalescing from a serious illness, one visitor a day is sufficient for the first few days after the doctor begins to allow people to come in to see his patient. The first visits should be only a few minutes long. If the visitor does not leave within a reasonable length of time, the nurse should ask her to go. Long visits should never be permitted.

PRACTICAL WORK.—Visiting a patient, observing the length of the visit and the proper type of conversation.

CHAPTER XVII

CONVALESCENCE

The period of convalescence is a very trying one both to nurse and patient. When the patient begins to sit up, she will need much encouragement to cheer her, because it is not until then that she fully realizes her weakness. She should be provided with an easy chair having a sloping back and a foot rest placed near the bed. Kimono and slippers will be sufficient additional clothing. After these are put on, the nurse draws the patient to the edge of the bed, bends her knees over the edge, slips one arm around her back and the other arm under her thighs, and lifts her gently into the chair.

The patient may find that half an hour will be long enough to sit up the first day. After the first day it may be found well for the patient to sit up at two different times during the day for a short period each, rather than sit up for one continuous longer period. While the patient is up, the nurse should allow the bed to air, then arrange it so it will be comfortable when the patient lies down again. The nurse should see that the patient returns to bed before she becomes tired. After the first day or two, unless the doctor gives special orders against it, the patient may be encouraged to take a few steps each time she gets up and to increase the number taken each day until the limbs regain their strength.

CHAPTER XVIII

DIVERSION

The nurse will find that reading to the patient will help to pass away the time. Judgment must be exercised in making selection of books or stories to be read, and care must be taken not to tire the patient by reading too long without intermission.

Simple games that are not too exciting may also help as diversion. If the patient's eyes are weak, she should not be allowed to read or to write for more than half an hour without resting.

The patient should be taken out into the open air as soon as possible. A drive for half an hour or so will often do more good than any medicine.

Tact is of the utmost importance in nursing. During convalescence, it is often necessary to tempt the appetite of the patient with dainty dishes, nicely served. Little surprises in the form of dainty things to eat or to drink, a few flowers, a new book or magazine, or simply a few cheerful words of sympathy and comfort will brighten the weary days and make the confinement less disagreeable.

PRACTICAL WORK.—Arranging an easy chair for a patient, seating her comfortably in it, and planning some diversion.

CHAPTER XIX

COMMUNICABLE DISEASES

TRANSMISSION OF GERMS.—Diseases that are carried by germs from one person to another are called communicable diseases. Disease germs are carried in many different ways. They may get into one's system through contact with the sick or through contact with articles touched by infected hands, or they may enter the body through impure water, food, or air or through the bites of insects. Typhoid-fever germs are carried in water and in food. Malaria, dengue, and bubonic plague are examples of diseases that are carried by insects.

There are four common ways in which disease germs enter the body:

1. Through the alimentary tract, as in typhoid fever, dysentery, and cholera.
2. Through the respiratory passages, as in pneumonia, tuberculosis, diphtheria, influenza, and measles.
3. Through the blood when germs are introduced by the bites of insects, as in malaria or dengue.
4. Through cuts and wounds, as in tetanus and as in the infection of wounds with pus-forming bacteria.

We are constantly touching and handling things that are touched and handled by others. We never know how many germs are on them. So, if we always remember not to put anything to our mouths without knowing that it and our hands are clean, we may save ourselves and others a great amount of trouble and worry.

PRECAUTIONS AGAINST GERMS.—Children have to be taught to be cleanly. There are four things that they should be taught to do as early as possible. These are (1) to keep their fingers and everything else except food and drink away from their mouths, (2) to use a handkerchief properly, (3) to wash their hands before meals, and (4) to wash their hands after going to the toilet.

If discharges from patients having communicable diseases are left open to flies, the people living in the neighborhood are in constant danger. The fly, after walking over these discharges may go directly to the house of a neighbor and there walk on the food or over the face and lips of a baby. This is particularly dangerous in cases of typhoid fever, cholera, and tuberculosis. Infected discharges should be disinfected at once, after which they may be emptied into a hole dug at least one-half meter deep in the ground away from the house and covered with dry lime or with earth.

ISOLATION.—One of the most important measures in the control of infectious diseases is isolation. To be of any use, isolation must be complete and must be continued until all danger of communicating the disease to others is past. When this time comes, the patient should be bathed with a disinfectant, should have her hair washed, and should be provided with clean clothing before leaving the room. The length of the period of isolation is prescribed by the physician in charge and by the board of health. (See *Sanitation and Hygiene for the Tropics*, page 165.)

In cities where many people live close together and where it is necessary to have very strict rules to prevent the spread of disease, persons who have smallpox or cholera, for example, are very carefully kept away from every one except the nurse and the doctor. The sick person is then said to be quarantined. (See *Sanitation and Hygiene for the Tropics*, pages 85–89 and 164.)

Many persons are careless about traveling during convalescence. We should always be sure, before entering trains or the homes of our friends, that there is absolutely no danger of our carrying diseases to others.

DISINFECTANTS.—Another important measure in the control of diseases is the careful use of disinfectants. Among the commonest disinfectants, fire, heat, and sunlight are the surest. Where these cannot be conveniently used, chemical disinfectants have to be employed.

The names and the uses of some of the best known chemical disinfectants are given below:

1. Carbolic-acid solution is the best disinfectant for general use. Care must be taken in making the solution. The proportion should be one part of the acid to thirty-nine parts of water. In the preparation of the solution, the water should be heated so that the acid will be sure to dissolve thoroughly. If the acid is not thoroughly dissolved or if the solution is too strong, it may burn the skin, cause a feeling of numbness, or produce sores.

2. Lysol is a good disinfectant, but it may be found more expensive than carbolic acid.

3. Quicklime may be used to disinfect excreta and privy vaults. Lime is cheap and is not dangerous to handle.

4. Bichloride of mercury is a well-known disinfectant, but it is too deadly a poison to be used by those who are not familiar with it. In

making a bichloride solution, one bichloride tablet is dissolved in one liter of hot water.

5. Alcohol may be used as a quick disinfectant for the hands. But if it is used too often, it will dry the cuticle and may cause the skin to crack and become sore.

6. Listerine is a convenient and pleasant disinfectant for the mouth and the throat. It contains boric acid, alcohol, and other ingredients. For use in the mouth it should be diluted, using one part of listerine to one part of water.

Disinfectants should never be left where they may be handled by children. Why?

The germs of all ordinary diseases may be killed if boiled in water for a sufficient length of time or if exposed to the direct rays of the sun. As a rule, it is easier to disinfect clothing by boiling than by any other means. Chairs and other such articles may be disinfected by putting them in the sunshine.

If the patient or the nurse has an accumulation of infected dirt under the finger nails, carbolic acid or lysol may kill the germs, but it will take a thorough scrubbing with a brush and soapsuds to remove all of the dirt. Soap may also be used to advantage in disinfecting floors, woodwork, and furniture. Its chief value lies in the fact that it removes the infective material (dirt).

AVOIDING EXPOSURE TO DISEASE.—No one should expose himself to a communicable disease unnecessarily. The fact that the person suffering from the disease has it in a mild form or the fact that the person exposed to the disease is in excellent physical condition does not mean that the disease will be transmitted in a mild form. If enough germs are taken into the body to cause the disease, it may take a violent form, and previous good health may not prevent serious complications and even death. If a person is called on to nurse a patient through the course of a communicable disease, she should undertake it with courage and with confidence, but at the same time should take every precaution to prevent getting the disease.

PRACTICAL WORK.—Preparing two or more disinfectants. These may be used when needed around the domestic science building.

REVIEW

1. What is a communicable disease?
2. Name four ways in which disease germs enter the body.
3. Why is it a bad habit to put pencils, pins, or the fingers into the mouth? Why should we not rub our eyes with our fingers?
4. Name four things that should be taught to children.

5. Why is it dangerous to leave open to flies the discharges from persons who have communicable diseases?
6. Why are flies such dangerous insects?
7. What is meant by isolating a sick person?
8. What is meant by quarantine?
9. Why should we isolate or quarantine all persons suffering with communicable diseases?
10. Why is it not safe for a person who is just recovering from such a disease to visit her neighbors or to travel around on trains or boats?
11. Name three of the surest disinfectants.
12. Name six chemical disinfectants.
13. How would you disinfect clothing? Furniture?
14. Why do soap and water make a good disinfectant?
15. Why is dirt under the finger nails dangerous?
16. If your neighbor has a very mild case of sickness could you get a very serious form of the disease from her?

CHAPTER XX

NURSING COMMUNICABLE DISEASES

PERSONAL PRECAUTIONS.—In nursing a communicable disease the nurse has the double task of caring for the patient and of keeping the infection from spreading to herself and others.

The following personal precautions to be taken by those nursing infectious diseases are quoted from Amy E. Pope's *Home Care of the Sick:*

> 1. Take sufficient sleep and rest but never in the patient's room. It is when the muscles are relaxed, as they are when resting, that the greatest danger of infection comes.
> 2. A daily walk in the fresh air is necessary. The clothing must be disinfected before being sent out to be laundered.
> 3. When working over the patient, never stoop so that you inhale her breath.
> 4. Never put your hands to your face, especially your mouth or eyes, without first disinfecting them.
> 5. Disinfect your hands frequently. Keep your nails short and scrupulously clean.
> 6. Before meals wash and disinfect your hands well, rinse your mouth with boric-acid solution, or with listerine or some other good mouth wash. Never eat in the patient's room.

PROCEDURE.—The nursing in infectious and contagious diseases is the same as in all cases of fever. While the temperature is high, the patient should be kept lying down to avoid strain on the heart. In typhoid fever this position is necessary, as hemorrhage from the intestines is liable to occur if the patient exerts herself trying to sit up.

Nourishment and medicine must be given exactly as ordered.

The nurse should see that the patient's bed is comfortable and is cared for properly. The oldest bedding and nightclothes in the house should be used, because frequent boiling and disinfecting are hard on them. In fever cases the bed linen (sheets and pillow cases) and nightclothes should be changed often, because of the odor that always accompanies fever unless everything is kept very clean.

As soon as the linen is taken off the bed, it should be rolled up carefully so that the germs will not be spread while it is being taken from the room. It should be soaked for at least two hours in a solution of carbolic acid, made by dissolving ten tablespoonfuls of carbolic acid in four liters of water. Then it may be boiled.

The floor and the woodwork of the room should be wiped every morning with a cloth dipped in a good disinfectant and then wrung out. If a broom is used in the sick room, it should be covered with a cloth dampened with a disinfectant. The doctor will give instructions about the kind of disinfectant to be used. Scrupulous cleanliness and extensive use of disinfectants will do much to prevent the spread of disease.

No food of any kind should be allowed to remain in the sick room. The dishes and the knives, forks, or spoons used by the patient should never be mixed with those used by the rest of the family until after they are properly disinfected.

Books, papers, and toys used by patients having contagious diseases should be burned, because they can never be thoroughly disinfected.

Each time, before a bedpan or a sputum cup is used, the nurse should put a little carbolic solution in it. After the pan or the cup has been used, the contents should be covered completely with disinfectant and allowed to stand for half an hour before being emptied, so that it will be thoroughly disinfected.

This precaution is especially to be observed in the case of typhoid fever, because the germs of that disease are found in great abundance in the feces, the urine, and the sputum of the patient.

The nurse should keep on hand a supply of small squares cut out of old clean cloth for the patient to use in the place of handkerchiefs and should burn them as soon as they are used. This is a very necessary precaution against spreading the disease, especially in cases of tuberculosis and diphtheria. Sometimes when cloth is not available small squares of soft paper may be used.

CHAPTER XXI

SOME OF THE MORE COMMON COMMUNICABLE DISEASES

INTRODUCTION.—The object here is not to attempt to tell how to treat infectious and contagious diseases without the help of a physician, but rather (1) to emphasize the importance of calling a physician in such cases, and following his directions; and (2) to explain the reasons for these directions in such a way that they can be intelligently followed.

MEASLES.—Measles is much more serious than most people think, for it is often followed by serious complications. The percentage of deaths caused by measles, particularly among children under six years of age, is large. Therefore the patient should be carefully watched and precautions taken against all possible complications. The measles patient should be kept in bed. The room should be well-ventilated, cool, and darkened. Great care should be taken to guard against exposure and chilling and to protect the eyes from bright light.

Since measles is very hard on the eyes, they should be protected from the light during the course of the disease. All reading should be forbidden until the period of convalescence is well advanced.

Tuberculosis may follow measles because of the weakening effect upon the respiratory organs. The patient should be watched carefully after she is apparently well.

Measles is infectious during the whole of its course. It is very infectious in the early stages, before it is generally recognized. The germs are found in the secretions of the mouth, throat, and eyes.

After a person has been exposed to measles and has taken the germs into his body, it will be eight or nine days before we can tell whether or not he has contracted the disease. We call this the incubation period. Eight or nine days after exposure the first symptoms of measles may appear. At first the symptoms resemble a cold, and the rash appears about four days later.

MUMPS.—At first, mumps may be mistaken for a cold. Early symptoms are usually fever and headache, but the first may be a sharp pain in the jaw when something sour is eaten. In mumps, the salivary gland in front of and below the ear (the parotid gland) is swollen. When the pain and the swelling both appear, there can be little doubt as to what the disease may be. The incubation period is from two to three weeks. The patient may carry the disease to others for about four weeks after the enlargement of the parotid gland.

The mumps patient should be kept in bed until the temperature is normal. Hot and cold compresses may be applied to the swelling and cold baths given to decrease the fever. With children, mumps as a rule is not serious, but with adults it may become very serious. In either case, care should be taken to prevent complications, especially colds.

WHOOPING COUGH.—If the whooping-cough patient is an infant, it will be necessary to guard against choking. During coughing, a direct current of fresh air in the face will often give relief. Children having whooping cough should be kept outdoors, except in damp weather, and should be kept away from other children. The clothes should be changed frequently and special attention given to cleanliness. The matter coughed up or vomited is full of germs, so whenever possible, it should be deposited either on cloths that can be burned or in pans that can be easily disinfected. Bathing should be done carefully. The patient should be kept out of draughts and should not be allowed to become fatigued. Pneumonia is sometimes a dangerous complication of whooping cough.

During the stage of whooping cough when the coughing is most severe, it is best to keep the patient in bed. If vomiting is persistent and comes soon after eating, the meal should be repeated after fifteen or twenty minutes. Otherwise the patient may be weakened by lack of food. The patient should drink water freely.

Isolation should be continued for at least five weeks, or until constant whooping has ceased. A slight cough may continue for months, during which time there may be a tendency to whoop during coughing or crying spells. The incubation period is usually from one to three weeks.

CHICKEN POX.—Chicken pox is very infectious. The first symptoms are usually chills, vomiting, and pain in the back. The later stages of the rash (eruption) in chicken pox resemble the earlier stages of the rash in smallpox. With children the disease is usually mild, but with adults it may be quite severe. Unless the papules are rubbed or scratched, or unless they are very large, there are no scars left on the skin after the attack.

SMALLPOX.—Smallpox is so highly infectious that patients are nearly always taken to the hospital. Therefore, this disease is very rarely nursed in the home.

The smallpox patient should be kept in bed, on a liquid diet. Care should be taken to prevent scratching of the sores, because this increases the danger of scars. The eyes should be washed often with boric-acid solution.

If the nurse has not had smallpox, she should be vaccinated again, before she undertakes to nurse the patient. It is also best for the whole family to be vaccinated or revaccinated if a case of smallpox develops in the home.

Absolute isolation of the smallpox patient must be strictly enforced, with the most careful disinfection. Fresh air and perfect cleanliness are of the first importance. The germs of smallpox are long-lived. They have been known to exist for months in clothing, books, letters, etc. They are carried by flies, and may be borne in the air for a short distance. The fact that a person is in good health does not protect him against the germs of smallpox. There are only two ways to become immune. One is to have the disease; the other is to be vaccinated. Those who have been vaccinated either do not contract the disease or have mild attacks. The only deaths that occur from smallpox are, almost without exception, among those who have either not been vaccinated at all, or not for many years.

TYPHOID FEVER.—In typoid fever the intestines become very much swollen and inflamed. All discharges from the mouth or from the bowels of a typhoid patient contain countless millions of germs of the disease. These discharges should therefore be burned or thoroughly disinfected at once to prevent the disease from spreading. If these discharges are carelessly thrown on the ground they may cause the disease to spread.

A person becomes infected with typhoid fever through the mouth usually by eating food or by drinking water which contains the germs. The germs also may be carried to the mouth by the hands, by pencils, or by other articles. Flies often carry the germs to food.

Extreme care must be taken that all dishes used by the patient are boiled after using. These dishes should be kept away from those used by other members of the family. Throughout the course of the disease, disinfection of clothing, bedding, and utensils is of the greatest importance. When changing clothing or bedding, the soiled linen should be rolled at once into a bundle and carried out of the room to a pail or tub of disinfectant which may consist of one part of carbolic acid to twenty parts of water. The nurse should be exceedingly careful to wash her hands immediately after touching bedclothes, utensils, or anything else that the typhoid patient uses.

A typhoid-fever patient is usually sick for a long time and she requires much difficult nursing. If possible, a trained nurse should take care of the case, or the patient should be taken to a hospital. If the home nurse has to take charge, she should write down and follow carefully complete directions from the physician; she should keep a record of every hour of the twenty-four; and should have some member of the family relieve her daily, so that she may take outdoor exercise, have plenty of time for her meals, and get sufficient sleep.

Care of the patient's mouth and gums is important in typhoid fever because the germs of the disease lodge in the mouth and then are taken into the stomach with food and drink. The tongue of the typhoid patient becomes almost black in the center and the throat and the back of the tongue become coated with mucus. Before and after the patient takes nourishment of any kind, the nurse should swab out the patient's mouth with whatever solution the doctor orders, paying particular attention to the back of the tongue.

Quiet for the typhoid patient is of great importance. Visitors, excitement, and family troubles must be kept out of the sick room. The patient must not be allowed to sit up or to be supported in bed for fear of heart failure, or of hemorrhage or perforation of the bowels. The patient when delirious should never be left alone for a moment, because there is great danger of her trying to get out of bed.

Different cases of typhoid fever require different treatment. Absolute obedience to the orders of the physician in charge will be the guide for the home nurse.

Tuberculosis.—It was not so many years ago that tuberculosis was thought to be incurable. Today this disease is so much better understood, the means used to cure it so simple, and so many cures are made in the early stages that no one having it should give up hope.

For many years tuberculosis was thought to be inherited. That is to say, if a mother had tuberculosis it was believed that her new-born baby would also have the disease. But it is now understood that in cases where tubercular parents have children who are also infected, the children were not born with the disease but became infected probably because of the carelessness of the parents. If the child were allowed to drink from the same glass as the sick parent, or to eat from the same spoon; if the child were kissed on the mouth by the parent; or if the sick parent were careless about spitting and permitted infection to be carried to the child by flies; the baby would be almost sure to have tuberculosis too.

There are two kinds of tuberculosis germs that attack man. One is known as the human type and the other is known as the bovine (cattle) type.

The germs of the human type appear in the sputum of people having the disease. They leave the mouth and the nose of the patient when he talks, laughs, sneezes, or spits, and with dried sputum, mucus, or spray, enter the mouths and the noses of others. Small particles of sputum may often be carried by flies to the food or to the mouth of another person.

After entering the mouth, some of the germs of this type may infect the tonsils while others are swallowed in the saliva or in food and are carried into the stomach. Those that are not killed by the acid in the gastric juice are absorbed into the blood and carried all over the body. And they may settle in any part of the body that is favorable to their development. This may be in the joints, in the bones, in the kidneys, in the lungs, or in the lymph nodes. (See *Sanitation and Hygiene for the Tropics*, page 294.)

If these germs enter the nasal passages they may enter the lungs with the air taken in. There they attack and destroy the lung tissue unless their growth is checked.

Cattle also suffer from tuberculosis. This is the tuberculosis known as the bovine type. The germs of the bovine type of tuberculosis appear in the milk and the butter of tubercular animals and enter the human system with the milk and the butter in which they appear. They may settle in the joints, the bones, or the lymph nodes. Tubercular germs in milk may be killed through pasteurization. In many countries, there are very strict laws which require that all dairy cattle be carefully inspected twice a year. The cows found to be tubercular are then killed.

In the open air and in the sunshine tuberculosis germs die quickly, but in damp, dark places they may live for weeks and even for months. Before moving into a house or a room, one should find out whether a tubercular patient has recently lived there or not, so that if necessary the place may be disinfected or perhaps repainted. In any case, the floors and the walls should be thoroughly cleaned.

If all tubercular germs were killed as soon as they left the human body, there would soon be no more tuberculosis in the world. A person having tuberculosis should take every possible care to keep it from spreading to others. It is quite common for members of the patient's family and even for the physician himself to hesitate to tell the patient that she has tuberculosis for fear of discouraging her; and the patient is thus allowed unknowingly to spread germs of the disease wherever she goes. When people begin to see the possibility of a cure for tuberculosis in its early stages, they will realize that the sooner a patient is told of her condition and begins to carry out the doctor's orders, the better chances she will have for recovery. Tubercular patients are quite willing to take the care necessary to protect others, when they understand the importance of doing so.

Since the patient's sputum contains millions of germs, it should be received in vessels containing a disinfectant (the best disinfectant being a five per cent solution of carbolic acid) or in sheets of paper about twenty centimeters square. These papers should be burned as soon as possible after they are used. A person having tuberculosis should not kiss anyone, should sleep alone, should see that her dishes are disinfected before they are used by others, should not expectorate in the street, nor in the street cars, nor in a pocket handkerchief, and should not put coins, or anything likely to be used by anyone else, into her mouth.

The best cures for tuberculosis of the lungs are rest, fresh air, sunshine, and proper food. Medicine has no effect, except when it proves to be a tonic for increasing the appetite or when it helps to build up the tissues. Valuable time which might be spent in proper treatment may be lost in taking patent medicines that are said to cure but really do not benefit the patient. Many such medicines contain drugs or alcohol which may produce temporary cheerfulness, but which may bring evil results later on.

If possible, arrangements should be made to let the patient sleep outdoors. Many houses have porches that can be turned into sleeping rooms if provided with a few curtains or screens. Sleeping porches may be built at small cost, or a tent may be used to advantage. Persons in the early stages of the disease have been known to recover by sleeping near open windows and by paying attention to food and to rest.

As a rule, tubercular patients do not have much appetite and whatever appetite they do have is usually for a variety of unwholesome foods. If the patient's food is prepared carefully and served daintily in as great a variety as possible, much can be done to tempt her to eat. She should be given eggs and milk in abundance. It will be possible to increase the nourishment of many dishes by putting eggs and cream in them. An egg may be beaten into cream sauce or lemonade and vegetables may be served with cream. These may be relished when more solid foods are refused. More eggs may be beaten into custards, puddings, and salad dressings than the recipe calls for without changing the flavor to any great extent. Seasoning has much to do with an invalid's appetite. The person who cooks for invalids should use seasoning in such a way that dishes will be pleasing to the taste and smell, and yet not burn the palate with too much pepper or other spices.

The tubercular patient should rest a large portion of the day. If she has a fever, she should stay in bed. She should not receive many visitors and she should be kept in quiet surroundings. All fatigue, even unnecessary walking about the room, should be avoided. Coughing is frequently the result of fatigue and nervousness. For this reason it can be controlled in many cases.

If possible, the tubercular patient should enter a hospital or a sanatorium where the treatment of tuberculosis is given special attention. There are several advantages derived from entering a hospital, for discipline is better than at home where members of the family yield too much to the whims of the patient; more rest, quiet, and freedom from interruption are obtained; and the number of visitors is regulated, whereas at home the patient is often weakened by the fatigue of having many guests. In a hospital, the patient also obtains the proper food and has access to sleeping porches or open wards where she can get plenty of fresh air both day and night.

Tuberculosis is common wherever there is much overcrowding and much impure air in living rooms. Impurities in the air come from respiration, from perspiration, from lack of bathing, from sewage, from crowding many persons into small rooms, from shutting out the night air by closing doors and windows, and from bad housekeeping in general.

The tubercular patient should—

1. Be careful to destroy sputum.
2. Employ an intelligent doctor and consult him about food, drink, work, rest, and exercise.
3. How is infection in typhoid fever spread?
4. Sleep well and keep outdoors as much as possible.
5. Eat plenty of meat, milk, butter, and eggs.
6. Keep regular hours.

REVIEW

1. Demonstrate the preparation of a solution of carbolic acid and explain how it should be used.
2. What precautions should be taken by a nurse while nursing an infectious disease?
3. How is infection in typhoid fever spread?
4. How may a person become immune from smallpox?
5. If possible, visit a hospital where tubercular patients are cared for.
6. Why should a tubercular patient enter a hospital or sanatorium where the treatment of tuberculosis is given special attention?
7. How and why should the sputum of a tubercular patient be destroyed?
8. Explain how a person having tuberculosis may be a menace to others.
9. Outline a good home treatment for a person having tuberculosis.
10. Tell how a person should live in order to avoid tuberculosis.

CHAPTER XXII

NURSING SICK CHILDREN

INTRODUCTION.—At all times the care of children requires unfailing patience and watchfulness. And when they are ill, it is necessary to combine tact and sympathy with patience and watchfulness.

OBSERVATION OF CHILDREN.—Children under four or five years of age are unable to tell just where their pain is or just how they feel, and sometimes when even older cannot tell exactly where the trouble is or how it affects them. It is necessary, therefore, in dealing with sick children, to watch them very closely. This is not hard to do. The eye can very soon be trained to notice signs of illness, especially in those who are near and dear to the observer.

The manner in which children cry is quite suggestive of where the trouble is. Crying immediately after coughing shows that the cough has caused pain in the chest. Incessant crying is a sure indication of pain or hunger. If it is caused by hunger, it will cease as soon as the child is fed. When there is pain in the ear, the child while crying may put his hand to his ear. When there is pain in the abdomen the child cries sharply, while he draws his legs up to his body and kicks at the air.

Much can be told about a child's illness by watching him sleep. The position he takes in bed is the one that gives him the greatest relief from pain. In case of lung trouble, he will lie on the side more affected, so that the air may more easily enter the lung less affected, thus enabling him to breathe more comfortably. When suffering from colic, he will turn over and lie on his stomach. Frowning and a continuous contraction of the eyebrows accompany pain in the head. Restlessness and twitching of the eyelids, while the thumb is flexed in the palm of the hand, mark the beginning of a convulsion.

If a child complains frequently of headache, after he is old enough to begin studying, while his general health seems to be good, there must be something wrong with his eyes, even though the sight may not appear to be troubled. Dark rings under the eyes are sometimes caused by bad circulation of the blood.

If a baby keeps putting his hand to his ear, head, or throat, it may mean inflammation or irritation of some kind.

A baby's temperature may rise one or two degrees quickly. Sometimes constipation or indigestion will make it rise. In such cases, a dose of castor oil may bring relief.

CONVULSIONS.—Babies are more subject to convulsions than are adults. Indigestion, teething, constipation, and other ailments may be accompanied by convulsions, because the nervous system is affected. Convulsions sometimes come at the beginning of a contagious disease. The first symptom is likely to be a twitching of the muscles of the hands and face, and rolling of the eyes. In a convulsion the baby becomes unconscious and its body stiffens, the pulse is weak, the respiration rapid, and the skin wet and clammy.

The quickest remedy for a convulsion is a hot bath. In preparing the bath care should be taken not to have the water hotter than 43° C. If no thermometer is available, the nurse should hold her elbow in the water long enough to be sure the water is not too hot. The hot water should begin to have a quieting effect within a few minutes, but the bath may be continued for from ten to twenty minutes, hot water being added gradually to keep the temperature even.

DISORDERS OF THE STOMACH.—Children less than two years old are subject to disorders caused by indigestion. These are indicated by loss of appetite, by vomiting, and by pains in the stomach. In cases of this kind, stop feeding the child and give it a dose of castor oil—1 teaspoonful to a child less than two years old and 2 teaspoonfuls to a child more than two years old.

It is safe to use castor oil, but it is not safe to use patent laxatives. When giving castor oil, cool the baby's mouth with cool drinking water; wet the spoon thoroughly so that the oil will slip off easily; cover the oil with a little orange juice to kill the taste. After taking the oil, the child should lie quietly for thirty minutes or longer. If the oil does not act or if the child does not get better, send for a doctor.

Frequently, vomiting indicates a contagious disease.

CONSTIPATION.—See that the baby's bowels move once or twice each day. If a nursing baby is constipated, try to regulate the evacuations of the bowels with a laxative diet for the mother. If this is not successful, give a five-months-old baby a little strained orange juice between two of its morning meals. Add to 1 or 2 tablespoonfuls of strained orange juice an equal amount of pure water slightly sweetened with sugar. Persistence in the establishment of regular evacuations of the baby's bowels prevents much of this trouble.

COLIC.—Colic is often caused by indigestion due to overfeeding, improper feeding, or feeding too frequently. The bowel is distended by gas, which causes pain; the baby cries sharply, while it draws its legs up to its body and kicks at the air. Do not feed the baby while the attack lasts. The feet and the legs should be kept warm and the abdomen may be massaged gently with warm coconut oil. Babies seldom have colic after the fourth month. If the baby is constipated or if it has a cold, it is liable to have colic.

COLD IN THE HEAD.—A cold in the head makes a baby very uncomfortable because it makes breathing difficult and thus interferes with nursing. To treat a cold in the head, keep the baby's bowels open. If the baby has a fever, reduce the amount of food. When babies have plenty of fresh air and when they are properly fed, they are less liable to take cold.

A cold is very contagious. Keep babies away from persons who have colds. When a mother has a cold, she should not breathe in the baby's face and she should not touch the baby with her handkerchief.

VACCINATION.—Babies more than two months old may be vaccinated. If smallpox is present in a town or in a barrio, or if a baby has been exposed to the disease, have it vaccinated immediately. Cover the sore made by vaccination with a loose bandage of sterile gauze or of sterile linen. An old handkerchief (made sterile by boiling) makes a good bandage.

ADENOIDS.—If a baby has adenoids, it sleeps with its mouth open, it snuffles, and it cannot breathe freely. If the baby shows signs of trouble of this kind, have it examined by a good doctor. If the baby has adenoids, have them removed. Adenoids may lead to deafness and to other defects which seriously hinder the child's growth of body and of mind.

KEEPING CHILDREN WELL.—To keep a child in good health, have him form regular habits as regards sleep, food, baths, bowel movements, and outdoor exercise. Many ills of childhood are caused by feeding the child the wrong kind of food. Indigestion in babies frequently leads to convulsions.

A child should urinate at least once every six hours. Children who cannot control the urine, especially at night, should not be punished. But they should be taught as far as possible the power of self-control and should be treated by the family physician.

Loss of weight is sometimes one of the first signs of ill health in children, and it may be well to have them weighed often, especially when they are growing very rapidly.

Sick children should not be moved more than is necessary. It is a mistake to think that they should be taken up and rocked in the arms or swung in a hammock. The quieter they can be kept when they are sick the better.

NOTE.—Mrs. Max West's "Infant Care," published by the Children's Bureau of the United States Department of Labor, contains much helpful information on common ailments and feeding of children. Copies of this publication may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C.; for 15 cents, U. S. currency, each.

CHAPTER XXIII

INFANT CARE

It is intended here to teach schoolgirls to take a more active part in bettering the condition of babies in the Philippines. After studying this chapter, each girl should try to give intelligent help in the care of her little brothers and her little sisters, not forgetting to help as many other babies as she can.

THE BABY'S FRIENDS.—The baby's friends are: healthy parents; mothers who nurse their babies; health officers; the visiting nurse; and the newspapers which use their columns to promote health.

THE BABY'S FOES.—The baby's foes are: dirty milk; impure water; impure air; a careless nurse; dirty nursing bottles; dirty nipples; dirty playthings; pacifiers; flies; mosquitoes; dust; candy.

THE BABY'S CLOTHES.—Bureau of Education plain-sewing patterns Nos. 32, 33, 34, and 35 give specific directions for the necessary clothes for an infant.

The articles of clothing which should be on hand when the baby is born are: three bands; three shirts; one dozen diapers; two small blankets; several dresses; two nightgowns of outing flannel (for cool weather).

OTHER THINGS FOR THE BABY.—Other things which must be on hand when the baby is born are: a saturated solution of boric acid (about 60 grams); a small bottle of pure sweet oil or vaseline or freshly made coconut oil; a piece of pure soap (castile or ivory); safety pins (large and small); a basin or small bathtub; a box of talcum powder (unscented); a small package of absorbent cotton; a small package of sterilized gauze or linen.

Cotton or linen squares, cut from worn-out cotton or linen undergarments, may be sterilized and used in place of the gauze or the absorbent cotton. Wash the undergarments to be used for this purpose in hot water and soap; rinse them in clean water; boil them thirty minutes; dry them in the sun, but not on the ground. When the garments are dry, cut them in 10-centimeter squares. Cut about three hundred squares and arrange them in neat bunches of fifty squares each. Wrap each bunch in cotton cloth and fasten it by basting. Sterilize the squares by steaming the packages as follows:

Invert a deep bowl in the bottom of a large kettle, in which there is just enough boiling water to cover the bowl. On top of the bowl place a plate; on top of the plate put the packages. Cover the kettle tightly. Keep the water boiling for one hour; then remove the packages and dry them in the sun. Do not open the packages until the squares are needed to dress the baby's cord, to wash the baby's mouth, and to clean the baby's eyes and nose.

Towels and washcloths should be provided for the baby. Old soft towels are best. Gauze makes excellent washcloths.

Prepare a glass bottle for the saturated solution of boric acid by washing it with hot water and soap and by boiling it in clean water for fifteen or for twenty minutes. To make the saturated solution of boric acid, put a teaspoonful of boric-acid powder in a small bowl; pour a cup of boiling water over it; and cover it up. When it is cool, turn it into the sterilized bottle and shake it until the powder is dissolved. Continue to add powder and to shake until no more powder will dissolve.

THE BABY'S BED.—The baby's bed may be made from a large oval basket about 75 centimeters long. A basket makes a light bed which can be handled easily. Line the side of the basket with some simple washable material. In the bottom of the basket put a folded mat that can be scrubbed and dried in the sun. Lay a quilted pad of several thicknesses of cloth on the mat; over this put oilcloth. Cover the oilcloth with a folded sheet. Tuck the sheet under the pad on all sides so that the bed will be smooth. A baby will breathe more easily if no pillow is used. Provide a mosquito net for the baby's bed.

Do not let a baby sleep in the same bed with its mother. Since a baby cannot move out of the way, there is danger of its being injured by the mother's moving about while she is asleep. When the baby is in the same bed with its mother, it is constantly tempted to nurse, and is thus liable to form the habit of nursing at short intervals which is one of the most common causes of indigestion and of colic.

The baby's bed should be comfortable and so made that the baby may lie in different easy positions. A net swung from the ceiling may be made into a very comfortable bed, because it is cool and may easily be kept free from insects. But very often such a bed is uncomfortable and even injurious to the baby, because the baby does not sleep well for it cannot lie straight and its back consequently becomes tired and aches. This makes it restless and fretful or even sick. Also when a baby is kept in such a bed, there is a tendency to swing it every time it cries or even when it is not crying. This swinging is very bad. It often makes the baby vomit and makes it feel sick, irritable, and cross.

A baby lying in bed should not be rocked or swung to get it to sleep. A healthy baby if left lying quietly in a comfortable bed will soon go to sleep.

BIRTH REGISTRATION.—The baby's birth should be registered promptly. The birth certificate may be needed to prove citizenship, age, or the right to inherit property.

THE NEWBORN BABY.—The first care given a newborn baby should be intrusted either to a doctor, to a trained nurse, or to a graduate midwife. When the baby comes, there should be a warm soft blanket to receive it.

Treating the Eyes.—The eyes should be cleaned immediately with a saturated solution of boric acid. The solution should be warmed by holding the bottle in a bowl of warm water. Then pour only as much as will be needed into a clean glass. The doctor or the nurse or the midwife should gently pull the eyelids apart with the thumb and the forefinger of the left hand and, with the right hand, should squeeze the warm solution of boric acid from a piece of absorbent cotton into the eye. A separate piece of cotton should be used for each eye. Then one drop of 1-per-cent solution of nitrate of silver or one drop of 10-per-cent solution of argyrol should be put in each eye to prevent infection. Wash the hands thoroughly before and after treating the eyes. If the eyelids stick together, a little vaseline should be rubbed on them and no time should be lost in sending for the best doctor obtainable. Delay may result in blindness.

The Nose.—The nose needs attention, especially if the nostrils are clogged with mucus. A drop of olive or coconut oil in each nostril will soften the secretion, which can then be removed with a piece of absorbent cotton twisted into a soft cone. Do not use hairpins or toothpicks for cleaning the nostrils.

The Mouth.—Clean the mouth and the tongue with sterile cotton or with sterile cotton cloth wrapped round the little finger and dipped in the solution of boric acid.

Oiling.—After cleaning the eyes, the nose, and the mouth, the body should be oiled with warm pure olive oil or with vaseline or with pure coconut oil. The oil should be warmed by holding the bottle containing it in warm water and should be applied with the fingers. At birth there is on the baby's skin (particularly under the arms, between the fingers and the toes, and in the creases of the skin) an accumulation of white cheesy substance that can only be removed with oil.

An hour or two after the oil bath, if the baby is robust, it may be given a warm-water bath. If the baby is delicate, a water bath should not be given for two or three days. If the water bath is deferred, a daily oil bath may take its place, care being taken to oil all creases and all folds, and then to wipe the body with a very soft cloth. Keep the body warm and covered as much as possible during the first water bath. The water should be of a temperature that feels comfortable to the bare elbow of the nurse. Wash the skin thoroughly but very gently, using castile or ivory soap and taking care not to get soap in the eyes. Pat the baby dry with warm soft towels. Do not give a tub bath until the navel has fully healed.

The navel dressing is made by covering the navel with a pad of sterile gauze or of soft cloth that contains a hole for the cord. This is covered with a second pad to protect the cord. The dressing is held in place by the band. This band should reach around the body and should overlap where it is fastened. It should not be too tight. The fastening should be on the left side, never over the navel. The fastening may be made by pinning the overlapped ends together with small safety pins or by stitching them together with needle and thread. The latter method of fastening is considered the better. After the band is adjusted, the shirt, the diaper, and the dress or gown should be put on. Then the baby should be wrapped in a soft blanket and put in its bed. The navel should be kept dry and undisturbed until it heals. This will be about the fifth day. The cord should be examined every morning when the baby is given its bath. If it looks red or swollen, or if there is any discharge, the physician should see it at once. After the stump of the cord comes off, the navel should be kept dry, clean, and well powdered.

Nursing the Baby.—Within six hours after birth, or as soon as the mother has rested, the baby may be put to the breast. The baby may be put to the breast every three hours after this until the true milk comes—usually the third day. When the true milk comes, the schedule of nursings on page 229 should be followed.

The nursings before the true milk comes are important (1) because they stimulate the secretion of the milk, (2) because they draw the nipples into better shape, and (3) because they help the baby to learn to draw the milk before the breasts are filled.

The baby may be given a little warm water while waiting for the breast milk to come. The baby needs nothing else and will not starve. The healthy baby sleeps most of the time during the first few days of its life and needs very little nourishment.

The first secretion in the mother's breast is a thick yellowish fluid called *colostrum.* This fluid contains some nourishment and helps to move the baby's bowels. Colostrum is nature's castor oil for the newborn baby and it is seldom necessary to give medicine to induce its bowels to move.

The nursings should be at regular intervals. (See schedule of nursings below.) It takes from fifteen to twenty minutes for the average baby to nurse. Before and after each nursing the mother's nipples and the baby's mouth should be washed with a 2-per-cent solution of boric acid or with clean boiled water. A 2-per-cent solution of boric acid is made by adding as much boiled water to a saturated solution of boric acid as the saturated solution itself contains.

The mother should nurse her baby (1) because breast milk is always ready, (2) because it is free of dirt and germs, (3) because it protects the baby from many diseases, (4) because it is the only perfect food for the baby, (5) because a breast-fed baby has the best chance to live.

METHOD OF NURSING.—The baby should be held lying on its side with its head a little elevated. It must be supported, so it is relaxed and comfortable. The breast above the nipple must be pressed away from the baby's nose so that it can breathe freely. The mother must be quiet and composed; otherwise the baby is disturbed and excited and will not nurse properly.

SCHEDULE OF NURSINGS.—This schedule of nursings was taken from Civico-Educational Lecture No. 14:

After Birth	Nursings In 24 Hours	Interval by Day	Night Nursing 10 P. M. to 6 A. M.
	Times	*Hours*	*Times*
3 days to 4 weeks	10	2	1
4 weeks to 2 months	8	2½	1
2 months to 5 months	7	3	1
5 months to 12 months	6	3	0

WATER FOR THE BABY TO DRINK.—Every morning boil for twenty minutes a small quantity of water and put it in a sterilized bottle. Give the baby water between nursing times from a nursing bottle or from a teaspoon. Fretful babies are often quieted by a drink of water.

THE NURSING MOTHER.—The commonest cause of death among infants in the Philippine Islands is infantile beriberi, (taon, suba) caused by the malnutrition of the mother. This disease can be prevented if the expectant mother has the proper food before the birth of the baby and while nursing the baby. If the mother's diet includes plenty of fish, eggs, vegetables, fruits, and unpolished rice, the baby will not have beriberi.

If a nursing infant develops beriberi it is always because the mother has not eaten enough of these foods to make her milk good for her baby. The proper way to cure the baby in such a case is for the mother to correct her diet at once, and to eat tikitiki until the baby is cured. If this is done the baby will recover in two or three weeks. The baby should not be weaned at this time but should continue to nurse as usual.

We must not forget that since the baby gets its sickness from the mother the mother also has beriberi even though she may not be sick enough to have to lie in bed all the time. The best and quickest way to cure baby is to cure the mother.

The mother's diet should be light and appetizing. The diet should include vegetables, fruits, meat, poultry, fish, eggs, milk, rice, bread, and corn-meal mush. Constipation should be avoided by eating laxative foods. The mother should drink from six to eight glasses of pure water a day. One or two glasses of water should be taken on rising in the morning to encourage the bowels to move.

The mother should study different ways to keep herself in perfect health, for otherwise her milk will not be nourishing, and her baby will be weak and irritable or even sick.

Exercise in the fresh air is necessary to enable the nursing mother to eat and to digest a generous supply of food.

The nursing mother should have at least eight hours sleep every night and a little rest during the day.

The mother should take a bath every day.

THE BABY'S TUB BATH.—As soon as the navel has fully healed, the baby should be given a tub bath every day. Do not bathe the baby until an hour after it has nursed; the best time is in the morning. It is better to have a basin or a tub used for no other purpose than for bathing the baby. Use water that feels warm to the elbow. Hot water should never be added to the bath while the baby is in the tub. Never leave a baby while it is in the tub.

Before starting to bathe the baby, wash your hands thoroughly; put within reach all clothing and all other articles needed. Before the baby is completely undressed, wash its scalp, lowering the head a little to avoid getting soap in its eyes. Wash the face. After drying the head and the face, clean the eyes, the nose, and the ears. (See page 231.) Then remove the clothing; soap the entire body, after which put the baby in the bath, allowing it to rest on your left arm slipped under the baby's back from its right side. Use the right hand to rinse the body; then lift the baby out of the water and wrap it immediately in a towel. Dry the baby carefully, patting the skin gently. Sprinkle a little pure talcum powder in the creases and in the folds of the skin, under the arms and around the buttocks. Do not apply the powder until the skin is dry. If the skin is damp, the powder will stop up the pores.

After the bath dress the baby, feed it, and put it in bed. Do not forget to adjust the net so that mosquitoes and flies cannot bite the baby. Do not allow the net to touch the baby's face.

The Baby's Sleep.—A baby less than six months old should sleep from eighteen to twenty hours out of every twenty-four hours; a baby between six and twelve months of age should sleep about sixteen hours; a baby between one and two years of age should sleep fourteen hours; a baby two years of age should sleep twelve hours. Naps in the daytime should be continued as long as possible.

If the baby cries when it should be asleep, it is either sick, overfed, hungry, or thirsty.

Care of the Baby's Eyes.—Whether the baby is asleep or awake its eyes should be shielded from strong light. While giving the baby its daily bath, clean the eyes with a soft piece of sterile absorbent cotton wet in a solution of boric acid or in water that has been boiled; use a separate piece of cotton for each eye. Swelling of the eyes, redness, or any discharge should be reported to the doctor at once.

Care of the Mouth.—Wash the mouth, using a twisted piece of sterile absorbent cotton wet in a 2-per-cent solution of boric acid or in water that has been boiled.

Care of the Nose and of the Ears.—Clean the baby's nose every day with a piece of absorbent cotton wet in a 2-per-cent solution of boric acid or in water that has been boiled. Clean the external part of the ear in the same way. All cotton used for cleaning should be burned.

The Baby's Head.—Wash the baby's head carefully every day. If a scaly or if a yellowish substance appears on the head, it should be greased at night with pure coconut oil. In the morning after washing it, the head may be very gently brushed with a baby's hairbrush.

Fresh Air for the Baby.—The baby needs fresh air. In pleasant weather take the baby out early in the morning, late in the afternoon, and early in the evening.

The Baby's Clothing.—All baby clothes should be soft, loose, and roomy. Never starch the baby's clothing. A band, a shirt, a diaper, a thin cotton slip, and a blanket (for cool weather) are necessary articles of clothing. Wet diapers make a baby fretful. During the day diapers should be changed as soon as they are soiled. At night the diaper should be changed when the baby is fed. Soiled diapers should be washed daily and all the diapers should be boiled at least twice a week. When washing baby clothes, rinse them thoroughly to remove all soap. Dry them on a line in the sun.

How to Lift the Baby.—To lift a young baby, slip the left hand under the back beneath the shoulders, spreading the fingers in such a way as to support the neck and the head, and lift the feet and the legs with the right hand. Never lift the baby without supporting the spine. When a baby has learned to hold up its head and has gained much strength in the muscles of the back and the neck, it may be lifted by grasping it with outspread fingers under the armpits, holding the baby firmly, so that the entire strain does not come on the shoulders. A baby should never be lifted by the arms. It is possible to dislocate the shoulder joint by careless lifting.

Things to Remember.—The mother or the persons in charge of a baby should remember these things:

Never consult a neighbor when the baby is sick; consult a doctor.

Never give the baby soothing sirups; they contain harmful drugs.

Never use pacifiers; they are germ carriers, they cause protruding jaws, they deform the roof of the mouth, and they cause adenoids.

Never rock or trot the baby; the baby is happier and healthier if kept quiet.

Never wake the baby to show it off; loss of sleep interferes with its growth.

Never let anyone kiss the baby on the mouth; diseases are communicated this way.

Never let strong light shine in the baby's eyes; it may injure them permanently.

Do not give the baby a taste of what you are eating.

Nursemaids.—Mothers should be watchful to prevent neglect and carelessness on the part of nursemaids.—A nursemaid who shows evidence of ill health should be examined for tuberculosis and for other infectious diseases. If the nurse has an infectious disease, the baby is in danger. A baby should never be left in the care of a child incompetent to do things necessary for the baby's comfort.

Bottle Feeding of Babies.—Bottle feeding refers to the method of feeding which must be employed when a baby is denied the use of breast milk.

Pure milk from healthy cows or from healthy goats may be modified to suit the child's age and development. The milk *must* be pure. It is impossible to prepare hygienic food for a baby from dirty milk no matter how it is modified or no matter how much care is taken in its preparation.

In the Philippines canned milk has proved a satisfactory substitute for ordinary milk. Because of the difficulty in procuring pure fresh milk, certain kinds of canned milk are much used as food for babies. A doctor should be consulted as to the best milk to use and for a formula for the modified milk best suited to the baby.

PREPARATION OF THE BABY'S FOOD.—If it is possible to keep the milk on ice, all of the baby's meals for twenty-four hours may be prepared at one time by having as many bottles as there are times the baby is to be fed. In the Philippine Islands there are many towns and barrios where ice is not available and the baby's food must be prepared each time the baby is fed. Everything used in the preparation of the baby's food, including the hands of the one who prepares it, *must* be clean.

These things will be found convenient when preparing food for the baby: one nursing bottle for each time the baby is fed in one day; a supply of black rubber nipples that may be turned inside out for cleaning; a clean cork for each bottle; a bottle brush; a graduated measuring glass; a 2-liter pitcher; a funnel; a long-handled spoon for stirring; a tablespoon; a saturated solution of boric acid.

NURSING BOTTLES.—The best nursing bottle affords the least harbor for germs. The bottle should have a short neck sloping gradually to the shoulder. It should be possible to reach every part of the inside of the bottle with the brush used for washing the bottles. Anneal new bottles thus: Place the bottles in a pan of cold water on the stove; heat the water gradually and let it boil twenty minutes. Allow the bottles to stay in the water until the water is cold; the bottles will then not be so liable to break when filled with hot water.

When the baby has finished nursing, pour out the milk that remains in the bottle; rinse the bottle with cold water and leave it standing filled with water until all the bottles for one day have been used. Then scrub all the bottles inside and outside with hot soapsuds, using the bottle brush on every part of the inside of each bottle. Rinse the bottles thoroughly and place them on a cloth in a kettle; cover them with water and boil for fifteen minutes.

NIPPLES.—Use a conic nipple that can be attached directly to the bottle. Nipples attached to long rubber tubes cannot be kept clean and are dangerous to the health of the baby. The hole in the nipple should be just large enough to allow the milk to come out in steady drops when the filled bottle is turned upside down.

Before using a new nipple, it should be boiled five minutes. It need not be boiled again if it is cleaned each time it is used. Boiling softens the rubber and the hole soon becomes too large. When the baby finishes nursing, take the nipple off of the bottle at once; turn it inside out over the finger; scrub it and rinse it with cold water that has been boiled. Keep it from the light in a clean, dry covered glass jar. Nipples should be rinsed just before they are used, in water that has been boiled.

PREPARATION OF MODIFIED MILK.—Measure in the measuring glass or in some other clean vessel the amount of milk prescribed in the formula which you have secured from the doctor. Pour the milk into the pitcher. Measure the other ingredients in the same way; add them to the milk and stir them well. Take as many bottles as there are times for feeding the baby in twenty-four hours, and pour the proper amount into each bottle. Close the bottles with clean corks or with sterile cotton. If the formula calls for pasteurizing, use the directions for this process as given on page 134. If canned milk is used and if the modified milk is prepared in a clean manner, it may not be necessary to pasteurize it. If fresh milk is used, pasteurizing will be necessary. Be sure to follow the formula obtained from the doctor.

FEEDING THE BABY.—When feeding the baby, be sure that the hands are clean. Shake the bottle of milk well before removing the cork. Dip the nipple into a saturated solution of boric acid. After removing the cork, slip the nipple over the neck of the bottle; do not touch the part of the nipple that is to go in the baby's mouth. Hold the bottle of milk in hot water until the milk is lukewarm. To test the temperature of the milk, drop a little on the under side of the wrist; if it feels warm, it is the right temperature for the baby; if it feels hot, cool it by holding the bottle in cold water. Do not test the temperature of the milk by putting the nipple in your mouth because an infection or a cold may be transmitted in this way from you to the baby.

When feeding the baby with a bottle, hold the baby on the left arm in the same position as for nursing. Hold the bottle so that the neck of the bottle is always full. The baby should be allowed from fifteen to twenty minutes to finish its meal. If the baby seems to be drawing the milk out of the bottle too fast, take the nipple out of its mouth for a moment, then let it have the nipple again.

If a baby cries when the bottle is taken away and if it cries again before the next time it is fed, the strength of the mixture may be increased gradually until it is satisfied.

If a baby vomits its food, or if it is restless, or if its bowels are too loose, it is evidently being overfed or the food is too rich. Consult your doctor; he may change the formula you are using.

THE BABY'S DRINKING WATER.—The bottle-fed baby needs plenty of pure water between meals. Do not put sugar or anything else in it. The baby's drinking water should never be very cold.

WEIGHING THE BABY.—Weigh the baby (undressed) once a week to see if it is gaining. Put a soft cloth between the pan of the scales and the baby's body. Balance the scales carefully and subtract the weight of the cloth to get the weight of the baby.

A HEALTHY BABY.—A healthy baby gains steadily in weight, has a good appetite, grows constantly in stature and in intelligence. A healthy baby does not vomit, does very little crying, and its bowels move every day. A healthy baby has wide-open eyes and sleeps with its eyes and mouth closed.

THE BABY'S DEVELOPMENT.—As a rule, the baby should be able to hold its head erect when four months old; it should be able to sit erect when seven or eight months old; it should make attempts to bear weight on its feet during the ninth or tenth month; it should be able to say a few words when one year old; the soft spot in the top of the head should begin to close when the baby is fourteen months old and should be closed when the baby is two years old.

Do not try to persuade a baby to stand or to walk. Its legs may be bent out of shape if it tries to support its weight too soon.

THE BABY'S TEETH.—The normal child has two sets of teeth. The first set, known as the milk teeth, are twenty in number. Soon after the sixth year, the milk teeth loosen and come out one by one to make room for the permanent teeth. It is thought by many that the soundness of the permanent teeth depends on the care given the first set. Just as soon as the milk teeth come, the mother should clean them every morning and every night with a piece of soft cloth wet with pure water.

A tiny bit of salt may be added to the water. As the child grows older it should be taught to take care of its own teeth.

When one year old the average baby has six teeth; when eighteen months old, twelve; when two years old, sixteen; and when thirty months old, twenty. This varies, however, as does also the order in which they appear. If the baby has no teeth at the end of the first year, the mother may be sure that the baby's development is not normal. It may be that the baby's diet is at fault or it may be that some disease is retarding the baby's growth. A doctor should be able to tell the mother what is wrong.

WEANING.—To wean is to accustom a child not to depend on the mother for nourishment. This should be done gradually, as follows:

Substitute one meal from a cup or bottle for one meal from the breast every day for a while; then substitute two meals from a cup or bottle for two meals from the breast for a while; and so on, until the baby is weaned.

As a rule, the baby should be weaned by the time it is one year old. Sometimes it is advisable to wean a baby from one to three months earlier. If the baby is weaned when it is ten months old or when it is younger, it may be fed from the bottle; if it is not weaned until it is one year old, it may be fed from a cup or with a spoon. If weaned at nine months or more, it may be given undiluted milk.

It is a good plan to give a nursing baby its drinking water from a nursing bottle. Then if it is necessary to wean the baby before the end of the first year, it will be easier to get the baby into the habit of taking its food from a bottle.

A bottle-fed baby is weaned from the bottle thus: When the baby is ten months old, substitute one meal from the cup for one meal from the bottle every day for a while; then substitute two meals from the cup for two meals from the bottle every day for a while; and so on, until the baby is weaned. This should usually be accomplished by the time the baby is thirteen months old.

FEEDING OF CHILDREN.—Most doctors agree that a baby must live on milk, water, and a little orange juice until it is eight months old. When it is about nine months old, it may be given a little well-prepared chicken broth or beef juice once a day. When it is ten months old, a little of the white of a coddled egg may be added to the diet. If the egg disagrees with the baby wait until the baby is older. A ten-months-old baby may be given a piece of well-toasted bread to chew after its meal. When the baby is twelve months old, it may be given undiluted milk and well-cooked rice seasoned with a little salt, and served with milk.

Give eggs cautiously at first because they do not agree with all babies. The eggs should be soft-boiled or coddled for four minutes. If eggs do not disagree with the baby, give the baby an egg every other day during the second year. When the baby is two years old, give it an egg every day. When the baby is two years old, it may also be given the most easily digested forms of meat, as scraped beef and the white meat of chicken. When the baby is two and one-half years old, most of the fresh green vegetables when thoroughly cooked and when well mashed may be included in the diet.

Food for children between three and six years old should be chosen with due consideration of their bodily needs.

A child is well fed if he has plenty of pure milk, plenty of well-cooked rice, an egg once a day or its equivalent in flesh foods, a small portion of carefully prepared fruits and vegetables, and a small amount of sweet food after his appetite for other food is satisfied. If there is too much or too little of any of these foods, the baby's diet is unbalanced.

MILK FOR BABIES AND FOR CHILDREN.—Milk is nature's food for babies and it is an important food for children of all ages. A liter of milk a day is a good allowance for a child five years old. The greater part of this should be given as a drink and the rest should be used in the preparation of soups, custards, gravies, etc.

Nothing can serve better than milk as a basis for the diet of the healthy child. Milk promotes the growth of muscles, bones, teeth, and other parts of the body. Milk is thought to be of help to the body of the child in making good use of other foods. When milk is used as a drink, it should be sipped, not gulped down.

Too much cannot be said about the importance of the baby's food. The baby grows more and its brain develops more during the first year than during any other one year of life. It is therefore important for parents to make great sacrifices to surround the baby with all possible conditions to promote perfect health.

REVIEW

1. What is the commonest cause of death among infants in the Philippine Islands?
2. What causes infantile beriberi? How may it be prevented?
3. How is a saturated solution of boric acid made?
4. How can you make a convenient bed for the baby?
5. Who should give the baby the first care?
6. Why should the new baby be oiled?
7. Why should a mother nurse her baby?
8. How long does it take for the average baby to nurse?
9. What care should the mother's nipples receive before and after nursing?
10. How should water be prepared for the baby to drink?
11. What is said about food for the nursing mother?
12. When should the baby be given its first tub bath?
13. Tell how to give a baby a tub bath?
14. How much sleep is necessary for a baby?
15. Why should babies never be given soothing sirups?
16. What harm results from giving pacifiers to babies?
17. Why is it wrong to kiss a baby on the mouth; to rock or to trot a baby?
18. What is meant by bottle feeding?
19. What kind of bottle makes a good nursing bottle?
20. Why are new bottles annealed? How are they annealed?
21. Tell how to clean nursing bottles.
22. Describe a sanitary nipple.
23. Why should a doctor give the formula for preparing modified milk for a baby?
24. Why is milk pasteurized? How is milk pasteurized?
25. How should the temperature of milk be tested just before giving it to the baby?
26. How can you tell when a baby is underfed; when a baby is overfed?
27. Why should a baby be weighed? How should a baby be weighed?
28. What does weaning mean? When is the best time to wean a baby?
29. What causes colic? How should colic be treated?
30. How should a cold be treated?
31. How can you tell if a baby has adenoids?
32. What foods may be added to the baby's diet when it is nine months old; when it is ten months old; when it is twelve months old?

CHAPTER XXIV

FOOD FOR THE SICK

INTRODUCTION.—In all cases of illness the patients' food should be given careful attention. Food either helps or hinders a rapid recovery. It is very important that the home nurse should know how to select and to prepare the food, and when and in what proportions to serve it.

THE NEED FOR NOURISHING FOOD.—Every human body requires energy foods and building foods to keep it in normal condition. And when the body is invaded by disease, special care has to be observed that a proper proportion of these foods is taken into the system daily.

In sickness, as in health, the internal work of the body goes on—the breathing continues, the blood circulates, and the heart beats. All of this requires energy. An adult lying quietly in bed needs nearly half as much food to supply this energy as he would need if he were doing light or medium work. If the energy that a sick person requires is not furnished by energy food, the fat which is stored in the body will be used for energy. Unless protein food is supplied daily in sufficient amounts to take the place of that which is wearing out each day, the tissues of the muscles will also waste away.

In a short case of sickness it probably does not injure the body much if the patient eats no food for several days. But in a disease which lasts a long time, it is very important for the patient to eat enough food to supply the energy, protein, and minerals that the body needs each day. If the patient has much fat stored in her body some of this can be used to supply the energy needed, but we know that only a very little protein is stored in the body. Therefore if protein food is not eaten daily there is no way to replace that which is constantly wearing out.

In a long spell of sickness the patient who does not have sufficient nourishment becomes very much weakened, and, if she does not die from the disease, may die from the general weakness resulting from lack of food. It is a very great mistake to allow a sick person to go without the proper kind and amount of food.

LIQUID DIET.—It is of the greatest importance that the proper kind of food be given to a sick person and that it be prepared in the proper way. The doctor should always be consulted about the patient's diet. In the case of typhoid fever for example, when the intestines become swollen, inflamed, and sore, it is very important that the patient be given only liquid food. Hard particles of food rubbing against the sore and swollen places of the intestines are liable to start bleeding and the patient may die of a hemorrhage.

Since all food must be changed in the alimentary tract to a fluid form before it can be absorbed into the blood, a liquid diet is usually regarded as best for a sick person and is often prescribed by the physician. Such a diet includes broths, soups, beef juice, gruels, milk, eggs, water, fruit juices, and cocoa.

Broths, clear soups, and beef tea have little or no food value. However, they are agreeable to the taste, comforting when hot, and often stimulate the flow of gastric juice. Broths may be made more nutritious by the addition of eggs or by thickening them with cereals.

Gruels made from cereals are useful in cases in which the appetite is poor or the digestive powers weak. They are quickly digested and absorbed into the blood. The value of gruels lies in the fact that they relieve hunger and thirst and furnish easily digested food. Like broths, gruels may be given more food value by the addition of eggs or milk.

Milk is one of the most valuable foods for the sick. For most people it is easy to digest, if taken slowly. Just how milk shall be prepared depends on the patient's preference—some like it hot and some cold. Coffee, tea, or cocoa may be added for flavoring and raw eggs may be added to give more food value to milk. An eggnog may be flavored with vanilla, nutmeg, coffee, or pineapple juice.

Liquid food leaves the stomach quickly and enters the circulation quickly. Hence liquid meals should not be too far apart.

LIGHT DIET.—A light diet is suitable during the first few days of convalescence. The dishes most commonly included under this heading are all of those mentioned under liquid diet and in addition such dishes as cream toast, custards, gelatin, scraped beef, and green vegetables. Fruit, scraped beef, and green vegetables are of particular importance in increasing the number of red corpuscles in the blood, thus preventing anæmia.

CONVALESCENT DIET.—Convalescent diet includes all foods that can be digested easily. The patient should pass from light diet to convalescent diet gradually, in order not to overtax the digestive organs. Meat or fish when first given should be in small quantities, either minced or scraped. Convalescent diet may be followed in a short time by the diet of an ordinary well person.

PREPARATION OF FOOD.—During illness, when the appetite has to be stimulated, the utmost daintiness should be observed in the preparation and the serving of meals. Sometimes, when the patient shows not the slightest desire to eat, a little delicacy, nicely cooked and daintily served, will be eaten and thoroughly enjoyed. The nurse should always prepare her patient's food unless she is sure that she can trust someone else to do it properly.

Hot foods should be served straight from the stove to the bedside. Dishes containing hot food should be kept covered while being carried to the patient's room. The cups or dishes used for hot food should first be filled with hot water to heat them. Tea, coffee, or chocolate should be taken in a pot or covered pitcher to the bedside, where it may be poured out when the patient is ready for it. If it is poured out before it is taken to the bedside, it may spill or it may become cold on the way. Toast cut in strips, and baked potatoes look very inviting within the folds of a snow-white napkin. Jellies look best in glass dishes. Eggs must be fresh and carefully prepared. Fresh fruits should be served as cold as possible.

THE FOOD TRAY.—Making the tray look attractive is almost as important as preparing the food properly. The tray should be covered with a clean napkin and the prettiest and daintiest tableware in the house should be used. The tray should not be crowded with dishes and food, and everything that is served should be given in small portions. On the attractiveness of the tray and the variety of food will depend to a very large extent the patient's pleasure and enjoyment in the meal. Even if the meal is very simple, it should be served nicely. Meat or chicken should be cut up. Soft-boiled eggs should be opened in the daintiest manner possible.

PREPARING THE PATIENT BEFORE AND AFTER THE MEAL.—Before the meal is served, the patient's hands and face should be wiped with a damp towel. The tray should be placed on a table near the bed. A bed-tray or bed-table may be found very useful. One may be improvised by placing a box on each side of the bed and laying a smooth board across the bed from one box to the others. The boxes should be high enough that the board will not rest on the patient's knees. It should be covered with a table napkin or a clean white piece of cloth.

As soon as the meal is finished, the tray and all dishes should be taken out of the room. All pillows that were used to prop the patient up and that are now in the way should be removed from the bed. All crumbs should be brushed out of the bed and the patient allowed to lie down while the nurse goes to her own meal. The chances are that on her return to the sick room, the nurse will find the patient sleeping.

TIME FOR MEALS.—It is a good plan to serve the patient's meal half an hour before the other members of the family eat. Then she may be properly cared for, her food may be served hotter, and she may be made more comfortable in every way.

FEEDING HELPLESS PATIENTS.—Helpless patients should be given nourishment with the greatest care and delicacy. The patient's head should be raised as gently as possible, but it should not be brought too much forward, because this will make it difficult for her to swallow. The food should not be given too fast. It should be in a small cup with a wide top, not more than half full, for otherwise the contents will be sure to spill and run down the patient's neck.

If the patient is allowed one or two tablespoonfuls only at a time, no more than that amount should be put in the cup. The patient may be expected then to take every drop of it.

PRACTICAL WORK.—Serving food to the sick. This work should cover several lesson periods and should be correlated with cooking lessons.

REVIEW

1. Why is it important that the nurse should understand what food to serve a patient?

2. Why is it necessary that food be supplied a sick person? Why does a person lying quietly in bed need food? About how much does such a person need?

3. What kind of food does a sick person need? Why? In typhoid fever what care must be taken regarding the patient's food? Why is this?

4. Why are fluid foods desirable for the sick? Are such foods very nutritious? Why? What are some of their uses? How may such foods be made more nutritious?

5. What kinds of food are suitable during convalescence?

6. Why is it desirable that all food served to the sick or to the convalescent should be served daintily? What would you suggest to make a patient's tray attractive?

7. How should a patient be prepared for her meal? How should the meal be served?

8. What should be done after the meal is finished?

9. If the patient is helpless how would you serve her meals?

10. Study the list of foods given on page 143.

(*a*) Prepare a dish from this list and serve it on a tray as if to a sick person.

(*b*) Prepare a meal suitable for a convalescent, and serve it daintily on a tray.

11. Other practical work related to the subject should be planned and carried out.

APPENDIX

RECIPES

BEVERAGES

ORANGE JUICE

Extract the juice from oranges; sweeten slightly; serve as cold as possible.

TAMARIND WATER

Shell a handful of ripe tamarinds; pour 2 cups of boiling water over them; cover and leave to cool. When cold, strain and sweeten to suit the taste; serve as cold as possible. Tamarind water is recommended for fever patients.

GINGER TEA (SALABAT)

4 cups cold water
4 tablespoons brown sugar
1 piece ginger root (3 cm. long)

Pare and bruise the ginger root; add the cold water and the sugar; bring the mixture to a boil; strain and serve hot. Ginger tea is recommended for colds.

PINEAPPLE JUICE

Pare and grate a pineapple. For every 2 cups of grated pineapple use 1 cup of white sugar; mix well; put in an enameled dish; cover and leave over night; strain the next morning. When needed, dilute the strained juice with cold water, or serve it undiluted and iced.

PINEAPPLE LEMONADE

Mix ⅛ cup of grated pineapple, the juice of 1 lemon, and 2 tablespoons of sugar. Pour over the mixture ⅛ cup of boiling water; let stand until cool; add ⅜ cup of cold water and strain into a glass. Serve cold.

NOTE.—The knife used for paring a pineapple should be washed before being used to slice the pineapple, because the rind contains an acid that may cause sore mouth and sore lips.

FRUIT PUNCH

(a) ⅓ cup lemon or lime juice
2 cups chopped pineapple
2 cups sugar
4 cups cold water

Mix thoroughly and serve cold.

(b) 4 cups water
2 cups sugar
⅓ cup lemon or lime juice
2 cups chopped pineapple
1 cup orange juice

Mix the water, the sugar, and the chopped pineapple; boil the mixture 20 minutes; add the orange juice and the lemon or lime juice; cool and strain; add cold water to suit the taste.

(*c*) Juice of 5 oranges
Juice of 5 lemons or equal amount of lime juice
1 grated pineapple
2 cups water
2 cups sugar
1 cup weak tea

Mix thoroughly and let stand for 30 minutes; strain; add enough ice water to make 6 liters. Cherries, mineral water, and bottled fruit juices (like strawberry juice) may be added just before serving.

LEMONADE

(*a*) 1 cup juice
1 cup sugar
1 liter water

Mix thoroughly and serve cold.

(*b*) Squeeze enough juice from the fruit to make a glass of cold water pleasantly sour; sweeten to suit the taste.

(*c*) 1 cup juice
1 cup sugar
1 liter boiling water

Pour the boiling water over the juice and the sugar; strain and serve cold.

(*d*) 1 lemon
2 tablespoons sugar
1 cup boiling water

Cut a thin slice from the middle of the lemon; remove the seeds. Squeeze the juice from the rest of the lemon into a bowl; add the sugar and the water; cover and leave until cool. Strain into a glass; put the slice of lemon on top.

Hot lemonade is recommended for colds.

ROASTING COFFEE

Put 2 cups of green coffee in a carajay; heat it over a slow charcoal fire (about 15 minutes) until it is yellow; shake and stir occasionally. Then increase the heat by adding a little wood to the fire. Stir the coffee until the kernels are deep brown and until they have an oily appearance. Beat the white of an egg until light; remove the carajay from the fire; pour the white of the egg over the coffee; stir rapidly until every kernel is coated with the egg. When cold, grind. Coffee should be kept in a tightly covered can or in a garrafon. Coffee has a better flavor when made from fresh roasted coffee.

BOILED COFFEE

For each cup of coffee to be made, use—

1 heaping tablespoon ground coffee
1 cup boiling water
½ teaspoon white of egg

Mix the white of egg with a little cold water, beating with a fork; add the coffee and stir until wet. Scald the coffeepot; put in the prepared coffee; pour in boiling water; boil 3 minutes; then remove from the fire; let stand 5 minutes in a warm place to settle.

CHOCOLATE

For each cup of chocolate to be made, use—

1 cake or 1 ball of native chocolate
½ cup hot milk
½ tablespoon white sugar

Melt the chocolate in a little water; add the sugar and the milk gradually. Boil a few minutes; remove from the fire; beat well and serve. Chocolate is improved by beating a fresh egg into it after it is taken from the fire, 1 egg being allowed to each ½ liter of chocolate prepared.

COCOA

For each cup of cocoa to be made, use—

½ tablespoon cocoa
½ tablespoon sugar
½ cup boiling water
½ cup scalded milk
A few grains of salt

Mix the dry ingredients in a saucepan; pour the boiling water over the mixture slowly, stirring constantly; boil 5 minutes; add the milk and boil 1 or 2 minutes longer. Beat with an egg beater until a froth forms.

TEA

For each cup of tea to be made, use—

1 teaspoon tea
1 cup boiling water

Scald the teapot. Put the tea in the pot and pour hot water over it. Let it stand a few minutes (not more than 5) and serve. Tea should never be boiled. If stronger tea is desired, use 2 teaspoons of tea to each cup of boiling water. Tea may be served with milk (or cream) and sugar; or it may be served hot or cold with sugar and thin slices of lemon.

BREADS

CORN GRIDDLE CAKES

2 cups corn meal
1 cup sifted flour
1 teaspoon salt
2 cups diluted milk
1 tablespoon sugar
4 teaspoons baking powder
1 egg
1 tablespoon fat

Put the corn meal, the sifted flour, the salt, the sugar, and the baking powder in the sifter; sift four times. Beat the egg until light; add the diluted milk. Stir the milk and the egg into the dry ingredients; add the melted fat; beat well. Bake on a hot well-greased griddle. Turn the cakes only once. Serve immediately.

RICE GRIDDLE CAKES

2 cups sifted flour
1 teaspoon sugar
½ teaspoon salt
3 teaspoons baking powder
1½ cups diluted milk
1 egg
2 cups boiled rice

Put the sifted flour, the sugar, the salt, and the baking powder in the sifter; sift four times. To the diluted milk add the egg well beaten and the boiled rice. Stir the liquid ingredients into the dry ingredients; beat well. Bake in thin cakes on a well-greased griddle, turning the cakes only once. Serve hot.

FLOUR GRIDDLE CAKES

1 cup sifted flour
3 teaspoons baking powder
¼ teaspoon salt
1 teaspoon sugar
1 tablespoon condensed milk
½ cup water
1 egg
1 teaspoon butter or fresh pork fat

Put the sifted flour, the baking powder, the salt, and the sugar in the sifter; sift four times. Beat the eggs; stir it into the canned milk and water; then stir the mixture into the flour; add the butter or the fresh pork fat; beat well. Bake on a well-greased griddle; turn the cakes only once. Serve hot.

BANANA FLOUR

Use full-grown bananas just before they ripen, because the amount of starch in unripe bananas is greater than the amount of starch in ripe bananas. In ripe bananas much of the starch has changed to sugar. Cheap bananas may be used. Saba bananas are good for this purpose. Slice them and dry the slices, after which grind or pound them in a mortar. Sift the powdered banana and you have *banana flour*.

SABA GEMS

1 cup banana flour
1 cup white flour
½ cup molasses
4 tablespoons lard
1 egg
½ cup boiling water
½ cup cold water
1 teaspoon soda
½ teaspoon salt

Pour the boiling water over the banana flour; leave it 10 minutes; add the molasses, the cold water, the melted lard, and the well-beaten egg; mix well. Sift together the white flour, the soda, and the salt; add to the other ingredients, mixing thoroughly. Bake in a moderately hot oven.

MASHED-CAMOTE BISCUITS

2 cups sifted flour
1 teaspoon salt
1 cup mashed camote
4 teaspoons baking powder
3 tablespoons shortening
Liquid enough to make soft dough

Sift all the dry ingredients. Cut or rub the fat into the dry ingredients. Rub the camote into this mixture. Add just enough milk or water to make the mass cling together. Do not knead. Place on a floured board; roll to about a 2-centimeter thickness; cut with a round biscuit cutter; place on a lightly floured tin and bake 15 to 20 minutes in a moderately hot oven.

CORN-MEAL ROLLS

2 tablespoons condensed milk
1 egg
1½ cups sifted flour
¾ cup corn meal
6 teaspoons baking powder
½ teaspoon salt
2 tablespoons lard
Butter

Put the condensed milk in a cup; add enough water to half fill the cup; add the egg well beaten. Put the sifted flour, the corn meal, the baking powder, and the salt in the sifter; sift four times; cut the lard into this mixture. Stir the liquid ingredients into the dry ingredients, mixing them to a soft dough with a spoon. Pour the dough out on a well-floured board; add enough flour to roll. Roll out lightly to a thickness of a little more than 1 centimeter. Cut in discs about 7 centimeters in diameter; brush one half of the surface of each disc with butter and fold the other half over it. Put in a greased pan; bake in a hot oven.

CORN-MEAL GEMS

½ cup corn meal
1 cup flour
3 teaspoons baking powder
1 tablespoon sugar
1 tablespoon melted butter or lard
½ teaspoon salt
¾ cup milk
1 egg

Scald the milk; add the lard and the salt; stir in the meal; cook a few minutes to thicken; let it cool; add the egg beaten light. Sift the flour, the sugar, and the baking powder together; add to the batter. Put in a hot well-greased gem pan; bake in a hot oven 20 minutes.

FLOUR MUFFINS

3 cups sifted flour
1 teaspoon salt
2 teaspoons sugar
4 teaspoons baking powder
1 egg
1½ cups diluted milk
3 tablespoons melted butter or lard

Put the flour, the salt, the sugar, and the baking powder in a sifter; sift four times. Beat the egg; add it to the diluted milk; stir into the flour; add the melted butter or the lard; mix well. Bake in well-greased muffin pans in a hot oven. Fill the muffin pans about two thirds full. If the pans are too full, the mixture will run over when it begins to heat.

RICE MUFFINS

2½ cups sifted flour
6 teaspoons baking powder
½ teaspoon salt
1½ cups diluted milk
1 egg
1 cup cold boiled rice

Put the sifted flour, the baking powder, and the salt in the sifter; sift four times. To the diluted milk add the egg beaten light and the cold boiled rice. Stir the liquid ingredients into the dry ingredients; beat vigorously. Bake in muffin pans in a hot oven.

BAKING-POWDER BISCUITS

(*a*) For the family, use—

2 cups sifted flour
4 teaspoons baking powder
½ teaspoon salt
2 tablespoons lard
¾ cup milk

Put the sifted flour, the baking powder, and the salt in the sifter; sift four times. Cut the lard into the flour. Add enough milk (about ¾ cup) to the flour to make a soft dough, mixing with a spoon. Put the dough on a well-floured board; add enough flour to roll; roll out lightly to a thickness of a little more than 1 centimeter. Cut in small discs; put in a greased pan; bake in a hot oven.

(*b*) For one person, use—

½ cup flour
1 teaspoon baking powder
¼ teaspoon salt
½ tablespoon lard
3 tablespoons milk or water

Sift all dry ingredients. With two knives cut the fat into the dry mixture until the whole is of a mealy consistency. Add milk slowly, cutting the mass instead of stirring it. Sift a little flour on the molding board; put the dough on the floured board; work it quickly with the hands. Pat the dough to a thickness of about 1½ centimeters. Dip the cutter in the flour and cut out the biscuits. Place the biscuits in a floured pan; bake in a hot oven. When baking in a range, place the pan on the bottom grate in a hot oven; when the biscuits have risen and browned slightly on the bottom, raise to the top grate to brown them on top. When well browned, remove from the oven. When eating biscuits break them open, do not cut them open.

CINNAMON ROLLS

(*a*) 2 cups sifted flour
4 teaspoons baking powder
½ teaspoon salt
Butter
2 tablespoons lard
¾ cup milk
Sugar
Cinnamon

Put the sifted flour, the baking powder, and the salt in a sifter; sift four times. Cut the lard into the flour. Add enough milk (about ¾ cup) to the flour to make a soft dough; mix with a spoon. Put the dough on a well-floured board; add enough flour to roll; roll out lightly to a thickness of a little more than 1 centimeter. Brush the surface with butter; sprinkle with sugar and cinnamon; roll like a jelly roll; cut in slices 2 or 3 centimeters thick. Put the slices flat in a greased pan; bake in a hot oven.

If desired, sprinkle the dough (after rolling) with the sugar, the cinnamon, and ⅓ cup of seeded raisins. If raisins are used, put them in a strainer and set the strainer in a large bowl of warm water; wash the raisins and then lift the strainer out of the bowl.

(*b*) 1 liter bread sponge
1 egg
2 teaspoons sugar
2 teaspoons butter
Butter
Sugar
Powdered cinnamon

To the bread sponge add the egg well beaten, the sugar, and the butter. Stir into the sponge enough sifted flour to knead. Knead the dough about 10 minutes; put it in a mixing bowl; set in a warm place to rise. When it doubles in size, pour it out on a well-floured board; roll to a thickness of about 1 centimeter; spread with butter; sprinkle with sugar and dust with powdered cinnamon; roll like a jelly roll; cut in slices about 5 centimeters thick; lay the slices flat in a greased pan; let them rise to double their size; bake in a hot oven.

BROWN BREAD

(*a*) 2 eggs
1 teaspoon salt
5 tablespoons molasses
1 cup sweet milk
1⅓ cups bran or graham flour
1 cup white flour
1 teaspoon soda
1½ cups seeded raisins

Beat together the eggs and the salt; add the molasses and the sweet milk. Sift together the bran or the graham and the white flour; add the dry ingredients to the liquid ingredients. Sift the soda into the raisins; add the raisins to the bread mixture. Bake in a moderate oven for 55 minutes. A change can be made by using 1 cup of raisins and ½ cup of chopped pilinuts instead of 1½ cups of raisins.

(*b*) 1 cup corn meal
½ cup flour
½ teaspoon soda
¼ teaspoon salt
1 cup sour milk
½ cup molasses

Sift the corn meal, the flour, the soda, and the salt together; add the sour milk and the molasses; if cooked in one loaf, steam for 3 hours. Baking-powder cans which have been tested for leakage may be used for small loaves; if they are used, the time for steaming will be 2 hours.

CORN BREAD

2 eggs
3 heaping tablespoons corn meal
2 cups flour
3 level teaspoons baking powder
1 tablespoon sugar
½ cup milk
¼ cup melted lard

Beat the eggs until light. Sift the flour and the baking powder together. Mix the dry ingredients; add the milk, the lard, and the eggs. Beat well. Bake in a well-greased pan.

POTATO YEAST

Cook 2 white potatoes of medium size in 2½ cups of water. When the potatoes are done, about 2 cups of water should be left; save this. Mash the potatoes fine and return them to the water in which they were boiled. While the potatoes are cooking, boil 1 tablespoon of hops in a cup of water; strain the hop water and add 1 cup of it to the potatoes; stir into the mixture 2 teaspoons of salt and 2 tablespoons of sugar. Put the mixture in a jar; cover; let stand (about 2 days) until the potatoes rise to the top. The yeast is then ready to use.

YEAST BREAD

In the evening boil 2 potatoes of medium size in 4½ cups of water. When the potatoes are done, about 4 cups of water should be left; save this. Mash the potatoes fine, and return them to the water in which they were boiled. To the potato water add 2 teaspoons of salt and 4 tablespoons of sugar. When the mixture is lukewarm, add the potato yeast; cover and set aside until the next morning, when it should be light and foamy. Then put 4 tablespoons of sugar and 4 tablespoons of lard in a large mixing bowl; pour in 2 cups of boiling water. When the liquid cools until it is lukewarm, stir the potato yeast into it, reserving about 1½ cups as a starter for the next baking. Stir into the liquid enough sifted flour to make a stiff sponge; beat well; cover and set aside in a warm place. When it is light (in about 1 hour) stir into it enough sifted flour to knead. Knead for about 20 minutes; then return it to the mixing bowl; set in a warm place to rise. When it doubles in size (in about 1 hour) form it into loaves; put in greased pans; cover and set aside to rise. When the dough doubles in size again, put it in a well-regulated oven; bake. Excellent bread may be made by using one-third camote flour to two-thirds wheat flour.

CEREALS

BOILED RICE

Use a broad shallow kettle for cooking rice. Sort and wash the rice. Add salt to the boiling water; drop the rice in the water slowly, keeping the water boiling. Stir twice with a fork at 3-minute intervals when the rice is first put in the kettle. When the rice thickens (in about 10 minutes) so that there is danger of its burning, remove some of the fire or put the kettle on the back of the stove; cover closely and cook slowly until done. When the rice is done, all the water should be gone. Each grain should be soft (but not mushy) and should stand apart from the others.

STEAMED RICE

Cook in a double boiler. Boil over the flame 10 minutes; then steam without stirring. When soft, lift lightly from the bottom of the boiler with a fork; dry over a low heat by placing the upper boiler directly over the fire for a few minutes.

GUINATAN (TUTONG)

1 cup malagkit rice
¼ cup mongos
5 cups thin coconut milk
1 cup rich coconut milk

Parch the mongos; rub off the husks and winnow. Mix the mongos and the rice; wash well and cook in the thin coconut milk until done. Remove from the fire; stir in the rich coconut milk; serve with sugar if desired.

CORN-MEAL MUSH

1 cup corn meal
3½ or 4 cups boiling water
1 teaspoon salt

Stir the meal slowly into the mixture of salt and boiling water. Cook directly over the fire for 5 minutes; then cook over boiling water for at least 3 hours, or cook directly over the fire for 30 minutes, stirring constantly. Serve hot with milk and sugar, or pour into a shallow pan to cool, after which slice and fry in clean cooking fat. Left-over meat or left-over chicken may be chopped, seasoned with pepper and salt, and stirred into the mush just before taking it from the fire. When this is done, it should be allowed to cool and to harden, after which it should be sliced and fried.

EGGS

CODDLED EGGS

Boil water vigorously in a saucepan; put an egg in the water; remove the saucepan from the fire at once. Cover the pan and let the egg cook 7 or 8 minutes. When the egg is broken, the white should be soft and of a jelly-like consistency. A few experiments will determine the quantity of water to be used; too much water will cook the egg too hard. Season coddled eggs with salt.

SOFT-BOILED EGGS

For 2 eggs use 2 cups of water. Put the water in a saucepan and let it come to a boil. Drop the eggs in carefully; cover the pan and remove it from the fire immediately. After 5 minutes (or after 10 minutes if preferred) remove the eggs; wipe and break into a cup or over toast. Season and serve hot.

HARD-BOILED EGGS

(*a*) Drop the eggs in boiling water; boil slowly 10 minutes, after which cool them in cold water.

(*b*) Put the eggs in the saucepan of boiling water; cover tightly and keep the pan (for 30 or 40 minutes) where the water will keep hot, but where it will not boil; cool the eggs in cold water.

(*c*) Put an egg in 2 cups of cold water; cover and heat slowly until the water boils. Remove from the fire and leave covered 20 minutes. Cool the egg in cold water.

NOTE.—Hard-boiled eggs are difficult to digest and should not be given to the sick or to children. Hard-boiled eggs may be used to garnish salads and other dishes, or they may be stuffed. (See recipes for stuffed eggs.)

SCRAMBLED EGGS

5 eggs
1 tablespoon lard
Salt and pepper

Break the eggs into a bowl; stir gently until the yolks mix with the whites; add salt and pepper. Put lard in the frying pan; put the eggs in the lard when the lard is moderately hot; cook slowly (stirring constantly) until the eggs are creamy and of desired firmness. Serve hot (on toast if desired). One-half cup of milk may be beaten with the eggs. One tablespoon of chopped ham to each egg may be stirred in just before serving.

POACHED EGG ON TOAST

Only fresh eggs can be poached successfully. Break the egg into a saucer. Butter a small frying pan; pour 1 cup of boiling water into the pan; add ¼ teaspoon of salt; remove the pan from the stove; slip the egg into the water. Cover the pan; leave it in a warm place (from 5 to 7 minutes) until the yolk is covered with a white film and until the white is firm. The water must be deep enough to cover the egg. Lift the egg from the water and place it on the toast.

NEST EGG

Break a fresh egg; separate the white from the yolk, putting the white in a mixing bowl. Add a pinch of salt to the white; beat it until stiff. Pour the beaten white into a small bowl or into a deep saucer that will not be broken by the heat of the oven; make a small hole in the middle of the white with a spoon; put the unbroken yolk in the hole. Set the dish in a hot oven; cook (2 or 3 minutes) until the white is slightly brown and until the yolk is firm. Serve hot (in the dish that it is cooked in). Use a separate dish for each egg.

LIGHT OMELET

1 egg
1 teaspoon butter, lard, or any fat
1 tablespoon water
Salt and pepper

Beat the yolk until thick and lemon-colored. Beat the white until stiff and dry. Add the water, the salt, and the pepper to the yolk; cut and fold in the white. Heat a small frying pan and put in the butter; tilt the pan until the bottom is covered with the butter. Pour in the omelet; spread and smooth carefully; cook over a moderate fire until it is puffed and until it is a delicate brown on the bottom. Place the pan where the omelet will cook on top. Test by touching with a knife; if the mixture sticks to the knife, it is not done. When done, cut and fold it; put it on a hot platter and serve while hot.

To cut and to fold an omelet, hold the handle of the pan in the left hand and (with a knife) cut a 1-centimeter gash in each edge of the omelet near the center of the pan and at right angles to the handle. Tilt the pan forward until nearly vertical. Lift the upper side of the omelet and fold it over gently, so as not to break it.

VEGETABLE OR MEAT OMELET

Fold into a four-egg omelet from ¼ to ½ cup of minced ham or from ¼ to ½ cup of chopped cooked vegetables, such as peas or spinach.

STUFFED EGGS

(*a*) Peel hard-boiled eggs; cut in halves. Remove the yolks; mash and season with salt, pepper, and melted butter (or salad oil). A little chopped pickle may be added to the seasoning if desired. Stuff the whites with this mixture. Stuffed eggs are nice for picnics.

(*b*) 4 hard-boiled eggs
2 tablespoons grated cheese
1 teaspoon vinegar
½ teaspoon salt
¼ teaspoon mustard
4 grains cayenne
Melted butter

Cut the eggs in halves. Remove the yolks and mash them; add the grated cheese, the vinegar, the salt, the mustard, and the cayenne; add enough melted butter to make the mixture of the right consistency. Stuff the whites with the mixture. Finely chopped ham may be used instead of the cheese; melted butter may be used instead of the vinegar.

SOUPS

RICE SOUP

½ cup rice
1 liter chicken broth
2 yolks of eggs
1 cup coconut milk
Salt and pepper

Wash the rice; boil 12 minutes. Add the chicken broth; cook until the rice is tender. Put through a strainer; return to the fire. Beat the yolks of the eggs; add them to 1 cup of coconut milk; add this to the soup; stir for 1 minute. Do not boil. Add salt and pepper to suit the taste.

CORN SOUP

1 liter uncooked corn cut from cob
2 cups cold water
1 tablespoon chopped onion
2 tablespoons butter
2 tablespoons flour
1½ teaspoons salt
¼ teaspoon pepper
3 cups hot milk

Omit the butter when coconut milk is used. Chop the corn; cook with the onion and the water (for about 30 minutes) until the corn is soft. Scald the milk. Make a thin white sauce; add it to the milk; cook 8 minutes, stirring constantly. Rub the corn through a strainer; add it to the mixture; boil 3 minutes

BAKED-BEAN SOUP

2 cups cold baked beans
3 cups cold water
1 tablespoon chopped onion
2 cups stewed tomato
1 teaspoon salt
Pepper

Mix the beans, the water, and the onion; simmer until the beans are soft; add the tomato. Rub the mixture through a strainer adding more water or more tomato to make it of the right consistency. Season, heat to a boil, and serve.

POTATO SOUP

4 medium-sized potatoes or 2 cups mashed potatoes
3 cups milk
1 cup water
1 small onion (quartered)
2 tablespoons butter
2 tablespoons flour
2 teaspoons salt
⅛ teaspoon white pepper

Wash and pare the potatoes; cook until done; drain and mash them. Put the milk, the water, and the onion in a double boiler; cook until the potatoes are ready. Pour hot milk over the mashed potato; press through a strainer. Make a thin white sauce, using 1 cup of hot soup in place of milk. Pour the sauce into the soup; cook 8 minutes, stirring constantly. Add salt and pepper. Serve with croutons.

CHICKEN SOUP

1 chicken
1 liter water to every ½ kilo of chicken
1 onion (sliced)
½ cup cooked rice
1 tablespoon flour
Salt and pepper

A tough old fowl makes better soup than a tender young chicken. Cut up the fowl; put it in a soup kettle. Add the water and the sliced onion; bring slowly to a boil; cook until the meat drops from the bones. Set aside to cool. Cook the rice (about 20 minutes) until tender. When the chicken cools, separate the bones from the meat; cut the meat in small pieces and return it to the soup. Season with salt and pepper; boil again and add the rice. Thicken the soup with 1 tablespoon of flour mixed with a little cold water.

MONGO SOUP

2 cups mongos
4 liters cold water
2 cups mixed vegetables
3 tablespoons pork fat
2 tablespoons flour
Thin white sauce
A ham or beef bone (if desired)

Wash the mongos; cover with cold water; bring to a boil. Drain and add 4 liters of cold water; heat slowly and simmer gently. Add the bone if desired. When the mongos are tender (but unbroken) add the salt, the pepper, and the mixed vegetables which have been cooked slowly in pork fat until tender and slightly browned. Continue cooking the soup until the mongos are pulpy; then press the mixture through a sieve. Return it to the fire; bring to a boil; thicken slightly with a little thin white sauce to keep the pulp from sinking and separating from the body of the soup. Serve with croutons.

CROUTONS

Cut stale bread in slices; remove the crust; cut the slices in 1-centimeter cubes. Put the cubes in a shallow pan; bake them in a moderate oven until they are golden brown. Turn them frequently while baking so as to brown all sides.

SCHOOL SOUP

2 kilos beef marrow bones
1 kilo lean beef
2 heads garlic broken into cloves
6 potatoes
½ cup barley or rice or tapioca or as many noodles as a cup of flour will make

Cut the meat and the vegetables in small pieces; put them in a large pot; cover with cold water; simmer for 3 hours. If barley or if rice is used for thickening, put it in the pot with the meat and the vegetables. If barley or if rice is not used, add the thickening later (see below). Crack the bones; put them in a large pot with 3 or 4 laurel leaves; cover with cold water. Set over a slow fire where it will not reach the boiling point in less than an hour; cover closely and simmer. Strain this liquid into the soup. If barley or if rice is not used for thickening, use the noodles or the tapioca or the vermicelli now. Then let the soup boil 20 minutes. Add salt and pepper.

NOODLES

Put 1 cup of flour in a soup plate; make a well in the center; put the yolks of 4 eggs and ½ teaspoon of salt in the well. Mix the flour gradually with the yolks; work until the dough is no longer sticky. Roll out until very thin; put in a towel and swing in the air, or put in the sun a minute to dry; then roll tightly and cut in fine noodles; drop these into the boiling soup.

CHICKEN BROTH

Cut up a chicken; cover with cold water and simmer; add enough hot water from time to time to keep it just covered. After the meat has fallen from the bones, strain off the liquid or broth. Season the broth with salt and pepper; return to the fire. If the broth is too strong, add a little boiling water. Put 1 teaspoon of rice or sago in the broth and let it simmer until tender.

FISH

BROILED FISH

Split small fish. Cut large fish in slices. Sprinkle the fish with salt; place in a well-greased broiler over a hot fire, turning the broiler every 10 seconds during the first minute of cooking to coagulate the albuminous juices and to prevent their escape; turn occasionally afterwards.

BAKED FISH

Fish may be baked whole or it may be cut in pieces. Put it in a pan; dot with butter; sprinkle with salt; add a little water. Bake until the flakes separate. Serve with a sauce.

FRIED FISH

Clean the fish; wipe dry and sprinkle with salt; dip in either flour, meal, crumbs, or egg and crumbs; fry in deep fat.

SAUTÉED FISH

Prepare the fish as for frying; cook in a frying pan with a small amount of fat.

FISH BALLS

Left-over fish may be used for fish balls. Be sure the fish is not spoiled. Remove all bones. Chop the fish fine or grind it twice in a meat chopper. Beat 1 egg and stir it into ½ cup or more of fish. Season with salt and pepper. Form into balls and brown in deep fat.

FISH EN BLANCO

1 large fish
1 tablespoon vinegar or lemon juice
2 cloves garlic
6 small potatoes
4 tomatoes
2 onions
A small bunch of kinchay
A few green onions
1 hard-boiled egg
2 tablespoons flour
2 tablespoons olive oil
Salt and pepper

Clean the fish; rub well with salt. Put enough water in a large clean carajay to cover the fish; add salt and lemon juice or a little vinegar. When the water boils, drop the fish in; cook slowly (about 20 minutes) until the flesh separates from the bone.

While the fish is cooking, peel and mince the garlic; peel the onions, the potatoes, and the tomatoes. Cut each in four or five slices; keep the slices whole. Remove the roots from the kinchay and from the green onions; wash them.

When the fish is done, put it on a large hot platter. Save the water in which the fish was cooked. Put 1 tablespoon of olive oil in the frying pan; heat and sauté the garlic; add the fish broth; when it boils, add the sliced potatoes and the sliced onions. When these are beginning to soften, add the tomatoes, the kinchay, and the green onions.

Mix the flour with a little water. Strain the vegetables from the broth. Thicken the broth with the mixture of flour and water; season with salt and pepper; add the rest of the olive oil; remove the carajay from the fire.

Cut the hard-boiled egg in two thick stars. Place the largest piece of onion on the fish; put a slice of tomato on top of the onion; put a star of hard-boiled egg on top of the tomato. Put a green onion and one head of kinchay in the mouth of the fish. Arrange small pieces of kinchay on the fish. Arrange vegetables around the fish. Pour the thickened sauce into the platter, being careful not to disturb the garnish.

BOILED FISH

Boil fish in enough water to cover it. Cut large fish in thick pieces. Boil medium-sized fish whole. Salt and lemon juice or vinegar are added to keep the fish from breaking apart, to whiten and to harden it slightly. The muscles of fish have large fibers and little connective tissues which cause the fish to break easily. Cook all fish thoroughly at a low temperature.

Pieces cut from large fish should be tied in a thin cloth to prevent scum from being deposited on it. Fish is done when the flesh separates from the bone. Serve boiled fish with a sauce.

FISH EN ADOBE

1 large fish
6 green peppers
Lard for frying
5 tablespoons vinegar
Salt
1 onion
1 head garlic
2 laurel leaves
5 tablespoons water

Clean the fish; cut crosswise in pieces 2½ centimeters thick; salt and fry. Remove the fish from the frying pan; cook the garlic and the onion; add the laurel leaves, the peppers (cut in strips), and the vinegar. Cook until the peppers are tender. Add the fish and cold water. Cook 5 minutes; add salt to suit the taste.

TORTA FISH

1 big fish (dalag weighing about 1 kilo)
4 tomatoes (sliced)
2 eggs
3 cloves garlic (minced)
A piece of fresh ginger (2 cm. long)
1 small onion (sliced)
4 tablespoons lard
1½ teaspoons salt
½ teaspoon pepper

Clean the fish; boil it in water to which the ginger has been added. When the fish is done, remove it from the water and take out the bones. Heat the lard in a frying pan; fry the garlic and the onion; stir in the tomatoes, the fish, the salt, and the pepper. Remove from the fire and cool. Beat eggs; add them to the mixture; mix thoroughly. Place a piece of banana leaf in the frying pan in which there is a little hot fat. Sauté the mixture by tablespoonfuls, browning both sides. Serve hot.

SINIGAN

1 fish (large milk fish)
7 or 8 camias
3 cups water
2 or 3 ripe tomatoes
3 green bananas
1 banana bud
Salt

Clean the fish; cut crosswise in two or three pieces. Slice the bananas. Put the water, the camias, the tomatoes and the bananas in a pot to boil. When the camias are soft, remove and mash with a spoon. Return them to the boiling water and add the salt. Cut the banana bud in pieces; add to the boiling water; boil until tender. Drop the fish in and boil until done. Ripe guavas or green mangoes or green tamarinds or santols may be used when camias are not in season.

Pork and beef are sometimes cooked this way.

RICE AND DRIED FISH

½ kilo boned dried fish
2 tablespoons suet
2 onions
1 cup blanched rice
1 liter strained tomato
1 teaspoon salt
Pepper
1 tablespoon pork fat
Hard-boiled eggs

Wash the boned dried fish; cut in narrow strips. Chop the onion fine. Wash the rice; blanch by boiling 15 minutes; drain. Stew and strain the tomatoes. Boil the eggs hard for garnishing. Put the fish in cold water; bring to a boil, and strain. Put the suet in an iron frying pan; add the onions and shake the pan over the fire for a moment; add the fish and the blanched rice. Pour the strained tomato over the rice; add 1 teaspoon of salt and a little pepper; cover the kettle and stew slowly for 20 minutes; add pork fat. Serve on a platter. Garnish with slices of hard-boiled eggs.

SHELLFISH

CLAM BROTH

Put well-scrubbed clams in a saucepan; cover with cold water; bring to a boil and cook until the shells open; remove from the pan and separate the clams from the shells. Chop the clams and return them to the broth. Cook 15 minutes and strain. If too rich, add hot water.

CLAM CHOWDER

1 liter clams
6 potatoes
1 large onion
½ kilo pork (diced)
2 teaspoons salt
¼ teaspoon pepper
4 tomatoes

Wash, drain, and chop the clams. Cut the potatoes and the onion into large dice. Sauté the pork and the onion until the onion is brown; add the potatoes and the tomatoes; cover with cold water; add salt and pepper; cook slowly for 30 minutes; add the clams and cook slowly 10 minutes.

PLAIN-COOKED CRABS

Rinse the crabs; put them in a kettle and cover with boiling water; add a little salt and cook until the shells turn a deep red.

CRAB-AND-SHRIMP GUMBO

6 crabs
20 shrimps
36 okra pods
1 cup tomatoes (cut up fine)
3 cloves garlic
1 large onion
2 teaspoons minced parsley
Bay leaves
1 red pepper (seeds removed)
2 tablespoons lard
1 tablespoon flour

Put the lard in a carajay. When it is hot, stir in the flour and brown slightly; add the onion, the garlic, the quartered crabs, the sliced okra, the tomatoes, the parsley, the bay leaves, the pepper, the shrimps. Stew these together for 20 minutes, stirring constantly to avoid scorching. Add 4 cups of boiling water; simmer for at least 1 hour. Add salt to suit the taste and serve with boiled rice.

OYSTER STEW

1 cup milk
1 cup water
1 cup oysters
2 tablespoons butter
½ teaspoon salt
Pepper

Heat the milk and the water to a boil. Add the oysters, the butter, the salt, and the pepper; cook until the edges of the oysters begin to curl. Serve at once.

FRIED OYSTERS

Wash and drain the oysters; dry on a soft cloth; season with salt and pepper. Dip them in bread crumbs or in slightly beaten egg and crumbs; sauté in hot fat until brown on both sides, or fry in deep fat.

OYSTERS AND PEPPERS

2 cups oysters
1 sweet pepper
½ onion
1 tablespoon clear cooking fat
Salt and pepper

Sauté the chopped onion and the pepper; add the oysters; season with pepper and salt; cook about 5 minutes. Serve with boiled rice.

SCRAMBLED OYSTERS

1 cup chopped oysters
4 eggs

Pour boiling water over the oysters; drain and add the eggs well beaten. Cook like scrambled eggs.

CURRIED SHRIMPS

½ kilo shrimps
2 tablespoons lard
1 tablespoon flour
1 small onion
3 sprigs parsley (minced)
1 bay leaf
1 teaspoon butter
1 tablespoon curry
2 cups hot water

When the lard is boiling hot, sift in the flour and brown it slightly. Add the minced onion and brown it. Add the peeled shrimps and fry until a light pink. Add the hot water, the curry, the bay leaf, the parsley, and the butter; stew gently for 20 minutes. Serve on a platter banked with hot boiled rice.

SHRIMP STEW

Use the recipe for curried shrimp, substituting 1 cup of tomatoes cut in small pieces for the curry.

CABBAGE WITH PORK AND SHRIMPS

1 head cabbage
1½ cups shrimps
½ kilo pork
4 tablespoons lard
2 tomatoes
1 onion
3 cloves garlic (crushed)
2 teaspoons salt
Pepper

Peel and mince the tomatoes. Mince the onion. Remove the outside leaves of the cabbage; quarter the head and remove the stalk; wash the quarters; put them in the boiling water; cook until tender; drain, and chop the cabbage. Make 2 cups of shrimp juice; strain and set aside. Cut the pork in small pieces. Sauté the pork until brown. Remove the meat from the frying pan. Sauté the garlic; add the onions and the tomatoes; cook until the onion is tender. Return the meat to the frying pan; add the shrimps, the cabbage, and the shrimp juice. Cover the pan and simmer for 5 minutes. Serve with boiled rice.

SHRIMPS A LA CREOLE

2 cups shelled shrimps
½ onion
3 ripe tomatoes (chopped)
1 clove garlic
2 tablespoons lard
Salt and pepper

Heat the lard in frying pan. Mix the shelled shrimps with the onion and the garlic; put them in the frying pan; add the tomatoes; cook for 10 minutes. Season with salt and pepper.

BOILED SHRIMPS

Rinse the shrimp; remove the heads. Put the shrimps in a kettle; cover with boiling water; add a little salt; let remain in the boiling water until the shells turn red.

PANSIT

¼ kilo miki
⅛ kilo bijon
⅛ kilo pork
25 shrimps
¾ cup water
½ head garlic
1 tablespoon kinchay
½ onion
1 cake bean cake
1 hard-boiled egg
1 tablespoon patis
6 calamansi

Cut the bean cake in small pieces. Peel the shrimps; pound the shells in a mortar; strain the juice and save it. Cook the pork; add the bean cake. Sauté the shrimps; when cooked, remove them and the bean cake from the carajay. Fry the onion and the garlic; remove from the carajay. Put the pork, the shrimps, and the bean cake in the carajay; add the patis; cook a few minutes. Soak the bijon in water 4 minutes. Wash the miki. Add the miki and the bijon to the mixture in the carajay; add the shrimp liquor. Cover and cook slowly 10 minutes. Serve with fried garlic and with slices of boiled egg. Cut the calamansi in halves and serve with pansit.

MEATS

PORK WITH GINGER

½ kilo pork
3 tablespoons lard
1½ cups vinegar
A piece of ginger (2 cm. long)
4 cloves garlic
5 or 6 small onions
Patis

Peel and slice the onions. Crush the garlic. Cut the ginger in very thin slices. Sauté the garlic until brown; add the ginger and the onions; cook 2 minutes. Add the pork, the patis, and the vinegar; cover and cook slowly (without stirring) until the vinegar evaporates. Cover the meat with boiling water and cook 10 minutes. Set aside 1 cup of broth from the meat. Cook the meat until dry. Add the lard and the browned meat; add the broth and cook 2 minutes. Serve.

TORTA MEAT

½ kilo of beef or pork
4 small tomatoes (sliced)
3 eggs
1 small onion
3 cloves garlic (minced)
4 tablespoons lard
1 teaspoon salt
½ teaspoon pepper

Grind or chop the meat. Fry the garlic in the hot lard; then fry the onion. When the onion is tender, add the tomatoes; mix thoroughly. Add the meat, the salt, and the pepper; mix thoroughly; remove from the fire to cool. Beat eggs and add to mixture. Fry like torta fish.

ARROZ A LA CUBANA

1 cup raw rice
½ kilo minced beef
6 eggs
8 saba bananas
4 cloves of garlic
1 tablespoon bread crumbs
½ cup water
½ onion
Pepper and salt

Boil the rice; form into mounds with a cup; place the mounds round the edge of a large platter. Sauté the garlic and the onion, then the minced beef. Season with salt and pepper. Add the water and the crumbs. Cook the mixture until nearly dry. Fry the eggs one by one, or hard boil and slice them. Peel, slice, and fry the bananas. When ready to serve, place the meat in the center of the rice on the platter; place the eggs next to the meat in an orderly border. Arrange the fried bananas on top of the meat. Make the dish as attractive as possible.

HAMBURG STEAK

Use a round steak freshly cut; grind with a little suet. Form (without packing) into one large steak. Broil if possible; otherwise, pan-broil.

PORK CHOPS

Wipe the chops; sprinkle with salt and pepper; place in a hot frying pan; cook slowly until tender and until well browned on each side.

PORK CHOPS WITH FRIED TOMATOES

Arrange the chops on a platter; place where they will keep hot. Cut half-ripe tomatoes in slices; sauté in the fat left in pan after cooking the chops. Sprinkle the tomatoes with a little sugar; place them around the chops.

STEWS

MEAT STEW

½ kilo meat (goat, beef, or pork)
2 liters water
4 good-sized onions
2 cups gabi or ubi
1 tablespoon flour
Salt and pepper

Cut the meat in small pieces; cover with boiling water; add the onions sliced; simmer for 2 hours or until the meat is tender. One half hour before serving, add the vegetables cut in slices. Season with salt and pepper; thicken slightly with flour stirred into a little cold water.

PICADILLO

¼ kilo beef
4 cloves garlic
½ onion
1 large ripe tomato
2 cups upo
1 tablespoon pork fat
Salt and pepper
2½ cups hot water

Mince the beef, the tomato, the onion, and the garlic separately. Peel, seed, and slice the upo. Sauté the garlic, then the onion, then the tomato. Add the beef and the upo. Cook 5 minutes and add hot water. Season with salt and pepper; continue to cook until the meat is tender and until the upo is soft.

GOAT STEW

2 kilos meat
1 large onion
½ garlic
2 cups gabi
1 cup carrots
1 tablespoon flour
Salt and pepper

Cut the onion in pieces. Peel the garlic. Pare and cut in small pieces the gabi and the carrots. The neck and the breast of a young goat are desirable for the stew. Put the meat in the kettle; add the onion, the garlic, and enough cold water to cover the meat. Cover the kettle tightly; simmer for 2 hours; add the gabi and the carrots; add salt and pepper to suit the taste. Cook 30 minutes longer and add flour mixed with a little cold water.

GUMBO

4 cups sliced okra
1 large onion or garlic
2 liters chicken broth or hot water
3 ripe tomatoes
2 cups minced chicken or same quantity of shrimps or oysters
Salt and pepper

Gumbo may be made with either chicken, shrimps, or oysters. Sauté the minced onion or garlic until brown; add the okra and cook thoroughly, stirring constantly to prevent burning. If chicken is used, it must be stewed until tender and the meat must be minced. Pour over the okra the 2 liters of chicken broth and boil down to 1 liter. When using oysters or shrimps, substitute boiling water for the chicken broth. After the soup has boiled down to 1 liter, add the meat and the tomatoes chopped fine. Season with salt and pepper. Serve with boiled rice.

TINOLA

1 chicken
1 green papaya or small upo
Ginger root (2 cm. long)
Salt

Clean and joint the chicken; stew until tender; add the ginger root and the papaya or upo peeled and cut in cubes; cook until the papaya is tender; season with salt.

ARROZ A LA VALENCIANA

1 chicken
2 cups rice
1 cup stewed tomatoes
1 large onion
A few cloves of garlic
1 small can peas
1 small can pimento
3 hard-boiled eggs
6 tablespoons lard
Salt and pepper

Sort and wash the rice; soak in water for 1 hour. Dress and joint the chicken; season with salt and pepper; sauté until light brown. Remove the chicken from the frying pan; sauté the minced onion and the bruised garlic until clear and tender. Add the tomato, the chicken, and enough boiling water to moisten and to steam the rice. Add the rice and the chopped pimento; cook slowly until the rice is done. Watch closely to prevent burning. Add peas 10 minutes before serving. Season with salt and pepper. Serve on a hot platter; garnish with slices of hard-boiled eggs.

MONGOS WITH PORK

½ kilo pork
1 chupa dried mongos
1 onion
4 cloves garlic (minced)
2 cups water
3 ripe tomatoes
Pepper and salt

Wash the mongos; put them in a rice pot; cover with cold water; boil 10 minutes; drain and cover with cold water; rub off the hulls. Return the mongos to the pot; cover with cold water; boil (about 30 minutes) until soft. Drain and keep the water. While the mongos are cooking, cut the pork in small pieces; separate the fat from the lean meat. Sauté the fat meat, then the lean meat. Take out the meat; sauté the garlic, then the minced onion. When soft, add the minced tomatoes; cook 5 minutes. Return the meat to the frying pan; add the mongos and the water in which they were boiled. Season with salt and pepper; stew for 15 minutes. Shrimps are often added to this recipe.

ADOBO

¼ kilo pork
1 head garlic
2 leaves laurel

¼ cup strong vinegar
1 teaspoon salt
A few grains of pepper (unground)

Clean and slice the meat; put in a carajay. Mince the garlic; add to the vinegar and the salt; pour over the meat and soak 5 minutes. Add enough boiling water to cover the meat. Cover the carajay and cook slowly until nearly dry. Increase the heat and continue to cook until the garlic is browned. Add a little lard if the meat is not fat. Serve with green-mango sauce. Chicken or beef may be used instead of the pork, or all three may be used together.

SITAO, PORK, AND SHRIMPS

4 cups sitao
½ kilo pork
1 cup fresh shrimps

1 onion
1 head garlic
1 tablespoon lard

Wash and string the sitao; cut in pieces about 3 centimeters long; drop in cold water until needed. Peel the shrimps. Cut the pork in small pieces; heat to a boil. When half cooked, strain off the water in which the pork boiled; set aside for later use. Cook all the fat out of the meat; cook until brown and crisp; remove from the frying pan. Put lard in the frying pan; sauté the garlic, then the onion. Return the meat to the pan; add the shrimps; cook 5 minutes, stirring constantly. Add the sitao and about one-fourth of the water in which the pork boiled. Cover the frying pan; cook 10 minutes, stirring occasionally. After 10 minutes, add the rest of the water in which the pork boiled and more clear water if needed. Cover and stew until the sitao is tender. Season with salt and pepper just before taking from the fire.

This recipe may be varied by using eggplant with the sitao.

FRITADA

½ kilo pork (fat and lean)
2 ripe tomatoes
4 camotes (small) or potatoes
2 or 3 red peppers

1 tablespoon flour
2 tablespoons lard
Salt and pepper

Slice the camotes or potatoes and the tomatoes. Slice the pork thin; put over the fire to stew with the peppers; when tender, add the camotes or potatoes. Heat the lard; sauté the tomatoes; add to the stewed pork and the camotes; cook until the camotes are tender. Season with salt and pepper. Thicken with flour mixed with a little cold water.

BACHO

¼ kilo pork
1 large upo
2 large tomatoes
4 cloves garlic
10 small onions
10 tablespoons lard
2 teaspoons salt
1 tablespoon achuete seeds
1 cup water

Peel and shred the upo. Cut the meat in small bits. Scald, peel, and slice the tomatoes. Clean and slice the onions. Soak the achuete seeds in a little cold water. Put the lard in a frying pan; fry the garlic until brown. Fry the meat; add the sliced tomatoes and the sliced onions; cook until the onion is tender. Add the upo and bring to a boil; then add the achuete seeds for coloring. Add the water and the salt. Boil until the upo is tender. Serve hot.

AMARGOSO

2 cups sliced amargoso
1½ teaspoons salt
⅛ kilo fat pork
1 onion or garlic
3 cups boiling water
2 eggs
⅛ teaspoon pepper

Cut the amargoso in thin slices; cover with salt; rub and squeeze to remove the bitter juice; wash in cold water. Mince the onion or the garlic. Beat the eggs thoroughly. Cook the pork. When the pork is nearly done, add the onion or the garlic; when tender, add the amargoso and enough boiling water to almost cover the amargoso. Cook until tender. Season with salt and pepper. Just before removing from the fire, stir in the eggs. Serve hot.

KIDNEY STEW

Wash the kidney, pulling off the thin skin and removing all membrane; cut in pieces the size of a walnut. Wash again and squeeze out the blood. Cover with hot water; simmer slowly in a covered saucepan (for 2 or 3 hours) until nearly done; remove the scum; add boiling water when necessary to keep the meat covered; add salt about 15 minutes before removing from the fire. Let the kidney cool in the juice and stand over night (if convenient). Take the kidney from the juice; cut in small pieces the size of a lima bean. Return to the juice; add chopped onion, salt, and pepper to suit the taste; boil slowly until done. Thicken with a little flour mixed with water or with milk. Add chopped parsley and serve with rice.

CUCUMBER PICADILLO

1 large cucumber
2 potatoes
¼ kilo pork
¼ kilo beef
1 onion
1 head garlic
1 tablespoon lard
Salt or patis
2 cups water

Pare the cucumber and the potatoes; cut in small pieces. Mince the pork and the beef. Brown the garlic in lard; add the onion, the potatoes, the beef, and the pork; cover and cook 10 minutes; stir the mixture; add the cucumber and the water; boil until the pork and the beef are tender. Season with salt or with patis.

DINENGDENG

½ kilo tender samsamping
4 tablespoons bagong
3 cups water
1 medium-sized fish (roasted or fried)
Salt

Prepare the samsamping; wash well and drain. Boil the water; pour a little on the bagong in a bowl; rub with a spoon and strain back into the pot. Add the fish and the samsamping; boil until done. Season with salt. Serve hot.

SQUASH, SHRIMPS, AND BAGONG

½ large squash
15 shrimps
1 onion
1 head garlic
2 tablespoons lard
Bagong
2 cups shrimp juice

Peel the squash; cut in small pieces. Peel the shrimps; make shrimp juice. Slice the onions. Brown the garlic in lard. Sauté the onions; add the shrimps. Cook for a few minutes; add the squash and the bagong; stir 3 minutes; add the shrimp juice; boil until the squash is tender.

PECHAY GULAY

6 pechay plants
⅛ kilo pork
1 cup shrimp juice
20 shrimps
1 onion
½ teaspoon salt

Cut young leaves in short lengths. Peel the shrimps; make shrimp juice. Fry the pork until brown. Brown the garlic

Sauté the onions; add the shrimps with a little salt; add the pechay; cook until the leaves are wilted; add the shrimp juice; stir. Boil for a few minutes.

CARI-CARI

Skin of carabao's head
5 eggplants
1 coconut
1 bundle sitao
1 banana heart
1 bundle batao
Young stems of squash
6 radishes
¼ liter peanuts
1 cup achuete seeds
Bagong or salt

Cut the skin in pieces; boil until tender. Cut the sitao in small pieces. Slice the eggplants and the banana heart. Pare and slice the radishes. String the stems of squash. Roast and pound the peanuts. Rub the achuete seeds in a cup of water to get coloring. Grate the coconut and extract the milk. Mix all ingredients except the peanuts and the salt or the bagong; cook until all are tender; then add the peanuts and season with bagong or with salt. The part of the leg of the beef from the knee to the hoof is sometimes used instead of the skin of a carabao's head.

AMARGOSO GULAY

3 large amargosos
½ kilo pork
20 shrimps
2 cups shrimp juice
1 head garlic
2 tomatoes
1 onion
1 egg

Slice the amargosos; salt; squeeze out the bitter juice. Cut the pork in small pieces. Slice the onions. Cut the tomatoes in small pieces. Bruise the garlic. Fry the pork; brown the garlic in the pork fat; add the onions, the tomatoes, the amargosos, and a little water; bring to a boil; add the shrimp juice, the shrimps, and the salt. Boil 20 minutes. Remove from the fire; stir in the egg well beaten.

MISUA

1 bunch misua
1 tablespoon lard
½ onion
1 clove garlic
Pepper
2½ cups boiling water
12 shrimps
1 patola

Scald the shrimps for about 3 minutes; remove the shells; pound the shells; strain the juice and set aside. Wash the misua; break in small pieces. Wash, peel, and slice the patola. Heat the lard in a carajay; sauté the garlic, the onion, and the shrimps. Add the patola, and cook; add the shrimp juice and the boiling water. Cover and cook about 5 minutes; add the misua; cook until tender. Season with salt and pepper. Serve hot.

POULTRY

BOILED FOWL

Dress and clean an old fowl; wrap in a piece of cheesecloth to prevent scum from settling on the skin; put in boiling water; let the water boil a few minutes; then lower the temperature and cook slowly until the meat is tender. Add salt during the last hour of cooking. Do not stuff a fowl when it is to be boiled.

FRIED CHICKEN

(*a*) Kill, clean, and joint a fat young chicken; dredge each piece thickly with salt; pepper, and flour. Put lard in the frying pan. When the lard is hot, put the pieces of chicken in; sauté slowly until done; turn often to prevent burning. When done, arrange the pieces on a hot dish.

To make the gravy, pour all the fat except 1 tablespoonful from the frying pan; to the fat left in the pan, add 1 tablespoon of flour and mix thoroughly; add 1 cup of hot milk or 1 cup of coconut milk; stir. Season with salt and pepper. Serve in a bowl.

(*b*) Kill, clean, and joint a fat young chicken; wipe the pieces dry; salt and roll in flour; sauté in a small quantity of lard, cooking slowly and turning the pieces until brown. Add a little hot water; cover closely and steam until tender. Remove the chicken and make gravy.

ROAST CHICKEN

To make the stuffing for roast chicken, use—

1 cup stale bread crumbs
⅛ teaspoon sage
1 teaspoon chopped onion
2 tablespoons butter
¼ cup boiling water
1 teaspoon salt
Pepper

Mix the crumbs, the seasoning, and the onion. Mix the water and the butter. Pour the mixture of water and butter over the other mixture.

Kill, clean, and dress a tender fat chicken. Stuff the cavity left by removing the crop and the other organs; do not stuff too full because the stuffing expands on roasting. Sew up the opening or fasten with skewers. Fasten the legs and the wings in position. Place the chicken on its back in the roasting pan.

rub the entire surface with salt. Rub 2 tablespoons of butter or fresh pork fat and 2 tablespoons of flour until creamy; spread this over the breast and over the legs.

Dredge the bottom of the pan with flour and put the chicken in the pan; place in a hot oven; reduce the heat when the flour is browned. Baste every 10 minutes until the chicken is tender.

For basting use 3 tablespoons of fresh pork fat mixed with 1 cup of boiling water. When used up, baste with the liquid in the pan.

Place the chicken on a hot platter; remove all skewers and stitches. Place the platter in front of the carver with the head of the chicken to the left.

Serve giblet gravy with roast chicken.

BONED CHICKEN

Kill and dress a young chicken. Singe it. Remove the pinfeathers, the head, the tendons, and the feet. Loosen the skin around the end of the leg bone.

Lay the chicken on a cutting board, breast side down. With a sharp knife cut the skin on the middle of the back half way between the neck and the tail. Find the backbone. With the back of the knife or with the fingers, scrape the meat from the backbone down to the free end of the shoulder blade.

Free the shoulder blade from the flesh. Keep pushing flesh away until the joint connecting the wings and the body is reached. Remove the tip of the wing at the joint. Push the meat away from the bone in the wing; be careful not to tear the skin. Repeat this process with the other wing and with the other shoulder blade.

Push the flesh away from the collar bone down to the breastbone. Be careful not to tear the skin on the breastbone. Separate the crop from the flesh. Scrape the flesh off the ribs; be careful not to puncture the membrane lining the body cavity.

Push the flesh away from the bone in the second joint, then from the leg. Pull the flesh off by turning it back from the bone. Do the same with the other leg.

Free the skin from the backbone. Lift the skeleton away from the meat.

To prepare force meat for a boned chicken, use—

½ kilo fresh pork
¼ kilo beef or chicken meat
1½ teaspoon salt
½ cup bread crumbs
½ teaspoon black pepper
1 teaspoon sage (crushed and sifted)
Stock or milk

Grind the meat. Mix the seasoning with the bread crumbs. Mix all ingredients; moisten with stock or with milk. Wipe the chicken inside and outside; turn the legs and the wings so the skin side is out. Fill the wings and the legs with force meat. As force meat does not expand on cooking, pack it tightly in the wings and in the legs. Sew up the slit in the skin from the neck down. Then fill the body full of force meat. Truss the wings and the legs into shape as in preparing a chicken for roasting. Fasten strips of pork over the legs. Roast from 2½ to 3 hours, according to the size of the chicken. A longer time is required if pork is used for filling. Cook all the bones for stock. Serve the chicken hot or cold with giblet gravy.

To carve, remove the wings and the legs; slice the chicken straight across.

RELLENO

1 boned chicken
¼ kilo raisins
1 small bottle of olives
2 tablespoons lard
2 hard-boiled eggs
2 ripe tomatoes

¼ kilo of beef, pork, or chicken meat
2 tablespoons chopped pickle
1 small can peas
2 tablespoons butter
½ onion
1 tablespoon catsup (if desired)

Dress and bone the chicken. Grind the beef, pork, or chicken meat. Mince the onion and the tomatoes. Seed the raisins and the olives. Heat the lard in a carajay; add the onion; cook until clear. Add the tomatoes, the ground meat, the raisins, the olives, the peas, the pickle, and the catsup; cook until the meat is done. Add chopped hard-boiled eggs. If necessary moisten the mixture with a little stock or with milk.

Stuff the boned chicken with the mixture; sew up the opening. Wrap the chicken in a clean cloth; bring to a boil in a little water, or steam until tender. Remove from the kettle and brown in a carajay, using very little fat. Turn the chicken to brown all sides.

Make the stock (using the liver, the gizzard, and the bones) by covering the bones and the meat with cold water and by bringing it quickly to a boil; then simmer until done. Add salt to suit the taste. Strain the chicken and the bones from the broth. Set the broth aside. Chop the giblets; dredge in flour; sauté in a little pork fat. Serve with giblet gravy.

CHICKEN GUMBO

Make like crab-and-shrimp gumbo, substituting a fried fat chicken for the crabs and the shrimps.

CHICKEN WITH MARUNGAY LEAVES

1 small chicken
2 cups marungay leaves
2 cups water
3 tablespoons lard
A little ginger root
Patis (if desired)
Salt

Dress and joint the chicken. Heat the lard in a carajay. Slice the ginger; add to the lard; add the chicken; cook until well browned. Cover with boiling water; cook until tender. Add the marungay leaves; cook 10 minutes. Season with salt or with patis.

UPO WITH CHICKEN

4 cups sliced upo
4 cloves garlic
2 large ripe tomatoes
1 onion
5 tablespoons lard
1 large chicken

Dress and joint the chicken; sprinkle with salt; leave until needed. Pare the upo; cut in small pieces; if old, remove the seeds. Mince the onion and the tomatoes. Put the lard in a carajay; when hot, fry the garlic and the onion, then the tomatoes. When the mixture is cooked to a sauce, add the chicken and enough water to cover. When the chicken is almost cooked, add the upo; cook (about 15 minutes) until the upo is soft. Add salt and pepper to suit the taste. Serve with boiled rice.

GRAVIES AND SAUCES

BROWN GRAVY

1 tablespoon fat
1 cup meat broth
1 tablespoon chopped onion
1 tablespoon flour
½ teaspoon salt
⅛ teaspoon pepper
1 teaspoon lemon juice

Put the fat in the frying pan; sauté the onion until light brown; add the flour; cook a few minutes; add the hot broth (2 tablespoons at a time), stirring each time until smooth. Season and serve with rice or other suitable food.

GIBLET GRAVY

Place the giblets and the neck in a small stewpan; cover with cold water; bring to a boil; cook until tender; remove from the stewpan; chop the giblets; save the water in which they were cooked. Pour off the liquid in the pan in which the chicken was roasted. Skim 3 tablespoons of fat from this liquid; add 3 tablespoons of flour; cook until brown. Add a cup of the broth in which the giblets cooked; cook 5 minutes; season with salt and pepper. Serve with rice.

DRAWN-BUTTER EGG SAUCE

¾ tablespoon butter
¾ tablespoon flour
½ cup boiling water
1 hard-boiled egg
1 tablespoon lemon or lime juice
Salt

Chop the egg. Melt the butter; stir in the flour; add boiling water gradually; season with salt. Boil 5 minutes. Add the egg and the lemon or lime juice. Serve with fish.

TOMATO SAUCE

2 cups stewed tomatoes (strained)
½ onion
4 tablespoons butter
4 tablespoons flour
¾ teaspoon salt
⅛ teaspoon pepper

Chop the onion fine; cook 10 minutes; strain through a sieve. Melt the butter; rub in flour; add the salt, the pepper, the tomatoes, the onion juice; cook until thick enough to serve. Serve with fish.

THIN WHITE SAUCE

1 tablespoon flour
2 tablespoons butter or lard
1 cup milk
¼ teaspoon salt
Pepper

Heat the butter or the fat. Put the salt and the pepper in the flour; sprinkle or sift into the butter or fat, stirring constantly. Pour in hot milk gradually, stirring constantly; cook until thoroughly blended and smooth. Use a double boiler or a frying pan. This sauce is used in making scalloped dishes and milk soups.

MEDIUM WHITE SAUCE

2 tablespoons flour
2 tablespoons butter or lard
1 cup milk
¼ teaspoon salt
Pepper

Scald the milk. Melt the fat; add the flour to the melted fat, smoothing out all lumps; add the hot milk slowly, stirring constantly. Boil 5 minutes. Add salt and pepper. This sauce is used with vegetables, fish, and meat.

THICK WHITE SAUCE

4 tablespoons flour
2 tablespoons butter or lard
1 cup hot milk
¼ teaspoon salt
Pepper

Rub the fat and the flour together; add the hot milk slowly, pressing out all lumps; stir; cook until smooth and thick; add salt and pepper. If coconut milk is used, omit the butter or the lard. This sauce is used in making croquettes.

PLAIN-PUDDING SAUCE

1 cup sugar
1 tablespoon cornstarch
1½ cups boiling water
1 tablespoon butter
A little nutmeg

Mix the sugar and the cornstarch thoroughly; pour boiling water over the mixture; boil 10 minutes, stirring constantly. Add the nutmeg and the butter. Serve hot.

VEGETABLES

DRIED BEANS WITH DAGMAY (GABI)

2 cups beans
1 cup coconut milk
10 dagmay roots
5 cups cold water
Salt

Soak the beans overnight. Blanch them next morning; cover with cold water; boil until tender. Pare the dagmay; put in with the beans; boil until the dagmay is soft. Add the coconut milk; simmer a little longer. Season with salt.

BAKED BEANS

2 cups dried beans
¼ kilo pork
1½ teaspoons salt
1 tablespoon native brown sugar
½ teaspoon mustard

Soak the beans overnight. Drain them next morning; cover with cold water; cook gently (about 1 hour) until the skins begin to break. Put the pork and the beans in a small olla. Put the seasoning in a cup of boiling water; pour over the beans, adding enough boiling water to cover them. Bake in a moderate oven for 4 or 5 hours. Add hot water from time to time to keep the beans moist. Keep the pot covered.

BAKED PAPAYA

Cut ripe papaya lengthwise in halves; add a little sugar and either orange, lime, or lemon juice (or a little cinnamon in place of the juice); bake 20 minutes; serve immediately. When prepared thus, it may be served as a vegetable.

STEWED DRIED BEANS

3 cups beans
¼ kilo pork (fat and lean)
Salt and pepper

Soak the beans overnight. Drain them next morning. Put them in a kettle with the pork; add enough cold water to cover; cook slowly (from 3 to 5 hours) until the beans are tender. Add salt and pepper. If the water boils away, add more.

LENTILS AND MONGOS

The recipe above may be used to cook lentils and mongos; or lentils and mongos may be cooked as follows: After soaking over night, drain off the water; cover with cold water; add a bit of soda; cook 10 minutes; drain, and cover with boiling water; cook (2 or 3 hours) until tender.

BAKED POTATOES

Select medium-sized potatoes; scrub thoroughly with a vegetable brush. Bake on the grate of a hot oven or cook in hot ashes; when done, press each one in a cloth until the skin breaks; replace in the oven for 3 or 4 minutes to let steam escape and to prevent sogginess. Serve at once.

STUFFED POTATOES

6 medium-sized potatoes
½ cup milk
1 egg
Butter
Salt and pepper

Cut a slice from the end of each baked potato, or split each baked potato; scoop out the inside; mash and season with salt, pepper, butter, a little heated milk, and a beaten egg. Stuff the mixture into the skins; reheat in the oven.

SQUASH WITH SHRIMP

1 small squash
2 cups shelled shrimps
1 head garlic
4 tablespoons lard
1 cup shrimp juice
Salt and pepper

Peel, slice, and cut the squash in small pieces. Make the shrimp juice. Brown the garlic; add the shrimps; simmer for 5 minutes, stirring constantly; add the squash and one fourth of the shrimp water; cover and cook for 10 or 15 minutes, stirring constantly. Add the rest of the shrimp juice and water if needed; cover and boil until well cooked; add salt and pepper just before taking from the fire.

STRING BEANS

(*a*) ½ kilo meat
3 cups string beans
2 coconuts
1 onion
Salt and pepper

String and wash the beans. Slice the onion. Cut the meat in small pieces. Grate the coconut; extract 3 cups of coconut milk. Bring the coconut milk to a boil; add the onion, the string beans, and the meat. Cook slowly until the beans and the meat are tender. Season with salt and pepper.

(*b*) 2 cups beans
Salt
1 slice of salted pork
Boiling water
Pinch of soda size of small pea if water is hard

String the beans, breaking them in 2 or 3-centimeter lengths; wash, and add the soda if the water is hard; cover with boiling water; add the salted pork, cook gently until tender. Add salt 15 minutes before the beans are done. Drain and serve the pork with the beans. Fresh pork may be cooked with beans for seasoning, or fresh pork fat may be used to season the beans after they are cooked.

Peas and beans contain a protein, which is not dissolved in hard water unless soda is added. If the water is soft, the soda is not needed.

BOILED POTATOES

Select potatoes of uniform size; wash and pare them. Cook until soft in boiling water to which salt has been added. Drain; remove the cover; shake over the fire until dry. Serve hot.

MASHED POTATOES

6 boiled potatoes
2 tablespoons butter
½ teaspoon salt
4 tablespoons hot milk
Pepper

Mash the boiled potatoes; add the butter, the salt, and the pepper. Add the milk slowly and beat the mixture with a fork until light, white, and foamy. Heap lightly on a hot dish.

SAVORY RICE

1 head garlic
1 onion
2 cups rice
2 tablespoons lard
3 ripe tomatoes
Water

Put the lard in a carajay; sauté the garlic, then the onion. Add the well-washed raw rice; add the tomatoes scalded, peeled, and sliced. Stir until the rice is browned; cover with water and finish cooking as in cooking plain rice.

SCALLOPED RICE AND TOMATOES

Put alternate layers of cooked rice and stewed tomatoes in a baking dish. Season with salt and pepper. Cover the top with crumbs; moisten with fresh pork fat. Bake covered until hot; then remove the cover and brown the crumbs.

STEWED TOMATOES

1 liter tomatoes
2 tablespoons flour
1 tablespoon sugar
Salt and pepper
½ tablespoon butter or fresh pork fat

Scald, peel, and chop the tomatoes; remove the core. Cook gently in an enameled saucepan. When the pulp is tender, add the flour rubbed to a paste in a little cooled tomato; stir until it boils; add the sugar; add salt and pepper. Butter or fresh pork fat may be added just before serving.

RAW TOMATOES

Select firm ripe tomatoes. Inspect the places where the stems are to see that there is no imperfection showing the presence of insects. Scald the tomatoes to loosen the skin; remove the skins and the stems. Serve (sliced or whole) with salt and pepper. Do not let tomatoes stand on a tin dish, because the action of the acid of tomatoes on tin forms a poison.

STUFFED PEPPERS

(*a*) 6 large peppers
¼ kilo raw beef
1 ripe tomato
1 tablespoon fat
1 small onion
1 clove garlic
¼ cup water
Salt and pepper

Roast the peppers in hot ashes; skin and put in cold water. Mince the beef. Peel the tomato; chop to bits. Chop the onion and the garlic, and sauté; add the tomato, the minced beef, the water, the salt, and the pepper; cook until nearly dry. Cut out the seeds and the inner white fiber of the peppers; stuff and sauté in a little lard.

(*b*) Cut off the ends where the stems were; seed the peppers; put them (for 3 minutes) in salted boiling water; then put them in cold water and soak 30 minutes. Drain and wipe dry; stuff with a mixture of boiled rice and chopped meat. Replace the ends and cook 20 minutes in ¼ inch of soup stock or water; then sauté.

(*c*) The peppers may be stuffed with either fish, beef, chicken, or any other chopped meat. The stuffing should be one-half bread crumbs or boiled rice and should be well seasoned with tomato sauce.

FRIED ONIONS

(*a*) Cover the onions with cold water; remove the skins; cut the onions in slices. Cover with boiling water; add 1 teaspoon of salt; boil 20 minutes. Drain, and add 1 heaping tablespoon of lard; sauté 20 minutes, stirring frequently. Add salt and pepper.

(*b*) Peel and slice the onions; sauté in lard or in other fat until tender and brown; add salt and pepper.

BOILED ONIONS

Peel the onions under water; cook until soft in salted boiling water, changing the water frequently. Season with butter, salt, and pepper, or with a thin white sauce.

UBI OR GABI

Slice the ubi or the gabi; cook until tender in salted water.

SINAÑGAG

1 cup cold boiled rice
2 tablespoons lard
1 clove garlic

Heat the lard in a frying pan; sauté the garlic. When the garlic is tender, add the rice. Stir occasionally to prevent scorching. Cook until light brown.

AMARGOSO WITH EGGS

2 cups amargoso
1 garlic
1 onion
2 eggs
3 tablespoons lard
1 teaspoon salt

Boil the amargoso, changing the water twice while it is boiling; drain. Sauté the garlic and the onion; add the amargoso; season with salt. Beat eggs and stir them into the mixture.

APAY

6 gabi stalks
1 cup diced gabi
3 ripe tomatoes
1 onion
Milk from one coconut
Salt and pepper

Scald, peel, and slice the tomatoes. Slice the onion. Remove the outer skin of the gabi stalks; cut in pieces 4 or 5 centimeters long; put these and the gabi in a pan; cover with water; boil until tender. Add the coconut milk; cook 5 minutes; add salt and pepper. Serve hot.

PATOLA

1 patola
1 large onion
1 tablespoon lard
Salt and pepper

Pare the patola; wash in cold water. Put the lard in a frying pan; sauté the onion chopped fine. When the onion is nearly done, add the patola. Cover and cook until soft. Add salt and pepper. Serve hot.

SCALLOPED PATOLA

2 cups cooked patola
1 tablespoon pork fat
3 eggs
1 cup milk
Bread crumbs
Bits of butter
Salt and pepper

Peel, wash, and slice the patola; boil in salted water until cooked; drain. Add the pork fat; season with salt and pepper. Beat the eggs light; add the milk and the patola. Put in a greased pudding dish; sprinkle with bread crumbs and bits of butter; bake.

BOILED SQUASH OR BOILED PUMPKIN

Wash the vegetable; cut in pieces and pare; remove the seeds. Put the pieces in boiling salted water. Cook (about 20 minutes) until tender. Remove, drain, and mash; season with pork fat, salt, and pepper.

BAKED SQUASH OR BAKED PUMPKIN

Cut the vegetable in two; remove the seeds; bake until tender. Remove from the oven; season with pork fat, salt, and pepper.

FRIED SQUASH OR FRIED PUMPKIN

Peel and slice the vegetable; boil 5 minutes. Remove from the fire; drop in cold water; wipe dry; dip in beaten egg; roll in bread crumbs; fry in deep hot lard. Drain, and season with salt and pepper.

SQUASH OR PUMPKIN CUSTARD

2 cups mashed squash
2 teaspoons pork fat
½ teaspoon salt
2 cups coconut or caraballa milk
½ teaspoon grated nutmeg
½ teaspoon powdered cinnamon
¼ teaspoon powdered ginger
Brown sugar

Peel and slice the vegetable; cut in small pieces; boil until soft; drain, mash, and press through a colander or through a basket; add the pork fat and the salt; leave until cold. When cold, add the milk, the nutmeg, the cinnamon, and the ginger; mix well and sweeten with brown sugar. Beat eggs until light and add to the mixture. Pour the mixture into a deep pan and bake about 30 minutes, or cook like Spanish flan.

REPOLLO HUEVOS

1 head cabbage
6 eggs
6 tablespoons lard
6 native onions
2 large ripe tomatoes
2½ teaspoons salt
Pepper

Remove the outside leaves of the cabbage; quarter the head; remove the stalk; wash thoroughly; put in boiling water; cook until tender. Drain and chop the cooked cabbage. Slice the tomatoes and the onions. Beat the eggs. Heat the lard in the frying pan; add the tomatoes and the onions. When the onions are tender, add the cabbage and a little hot water to keep the mixture moist. Cook 10 minutes, stirring constantly. Add salt, pepper, and eggs. Mix thoroughly and serve.

BOILED CAMOTES

Select camotes of uniform size; scrub with a vegetable brush; put in boiling water; cook until done. Drain off the water and dry over the fire for a few minutes. Serve hot or cold.

STEAMED CAMOTES

Prepare the camotes as for boiling. Place in a steamer and cover; cook over boiling water until done.

ROASTED CAMOTES

Bury well-scrubbed camotes in hot ashes, deep enough not to burn; cover with hot coals; leave for 1 hour (or longer if they are large). Before serving, rub well with a clean cloth to remove the ashes.

CORN-AND-CAMOTE SCALLOP

Left-over corn and left-over camotes may be made into a scallop by filling a greased baking dish with alternate layers of corn and of camotes, seasoning each layer with salt, pepper, and pork fat. The top layer should be of camotes and should be covered with a sauce made as follows: Brown together 1 tablespoon of fat and 1 tablespoon of caramelo; stir in 1 tablespoon of flour; add 1 cup of milk and ½ teaspoon of salt; cook a few minutes. Bake the scallop 30 minutes in a moderate oven.

FRIED CAMOTES

Remove the skins from the cooked camotes; cut lengthwise; sprinkle with salt and pepper; brown on both sides in hot fat. Serve hot.

CARAMEL CAMOTE

Peel and split cooked camotes; place in a slightly greased baking pan; sprinkle thickly with brown sugar and brown in the oven.

MASHED EGGPLANT

1 large eggplant
1 liter boiling water
1 egg
Vinegar
Salt and pepper

Wash the eggplant; do not peel; drop in boiling water; cook until soft. Drain, pressing out as much water as possible; mash like potatoes. Season with salt, pepper, and vinegar. Reheat. Beat the egg until light and stir it into the hot mashed eggplant.

STUFFED EGGPLANT

1 large eggplant
1 cup boiled lean pork (chopped fine)
½ cup bread crumbs
1 tablespoon chopped onion or a little garlic
1 tablespoon pork fat
Salt and pepper
2 tablespoons meat broth
3 cups boiling water
1 tablespoon flour

Wash the eggplant; cook in boiling salted water for 10 minutes. When cold, split in halves; scrap out the center, leaving the sides of the eggplant 1¼ centimeters thick. Chop half of the pulp fine; add to it the pork, the onion, half of the bread crumbs, the pork fat, the salt, and the pepper. Mix well; add enough of the broth in which the meat was boiled to make a stiff paste. Fill the halves of the eggplant with this mixture; cover the tops with bread crumbs; put them in a frying pan; pour hot water or broth over them; cook 20 minutes. Remove the eggplant to a hot platter. Thicken the gravy left in the pan with flour mixed with cold water. Pour sauce around the eggplant.

EGGPLANT STUFFED WITH RICE

1 large eggplant
1 cup boiled rice
1 cup chopped ripe tomatoes
1 sweet pepper (chopped fine)
1 tablespoon chopped onion or a little garlic
Salt and pepper

Prepare the eggplant as in the preceding recipe. Mix together half of the chopped pulp of the eggplant, the rice, the tomatoes, and the pepper; add the salt and the onion. Fill the eggplant with this mixture; fasten the two halves together with a bamboo skewer and fry. When cooked, remove the skewer. Serve hot.

EGGPLANT OMELET (TORTILLA)

2 large eggplants
½ kilo pork
1 head garlic
2 onions
2 tablespoons pimento
2 tablespoons lard
1 egg
Salt

Boil the eggplant; mash fine. Chop the pork. Sauté the garlic, then the onion; add the pork and a little water; boil until the pork is tender; add the pimento, the mashed eggplant, the salt, and the egg well beaten. Take from the fire; wrap in pieces of banana leaf; sauté, using lard to keep the omelet from sticking to the leaf.

PINACBET

(*a*) 5 eggplants
2 large tomatoes
20 pods seguidilla or sincamas or string beans.
3 amargosos
2 large onions
5 tablespoons bagong
1 cup water
5 tablespoons lard
Salt

Wash the eggplants; split them in halves. Quarter the amargosos. Soak the eggplants and the amargosos 30 minutes in cold salted water. Remove the ends of the seguidilla, break the pods, and wash them well. Slice the onions and the tomatoes. Put the lard in a clean pot; add the bagong water and the prepared vegetables; cook until the vegetables are tender. Season and serve.

(*b*) 10 eggplants
5 amargosos
4 tablespoons bagong
4 tablespoons lard
4 tomatoes
10 onions
1 piece ginger root 2 cm. long
1 cup water
5 camotes

Wash the eggplants and the amargosos; quarter them lengthwise, but do not separate from the stems. Slice the other vegetables and mix with the bagong and the water. Put the lard in a pot and place over the fire. When hot, add the prepared ingredients; cover and cook until the vegetables are tender; shake the pot occasionally to prevent the vegetables from sticking and burning. When done, season with salt.

OKRA WITH TOMATOES

(*a*) 4 cups minced ripe tomatoes
4 cups young okra (sliced)
4 tablespoons pork fat
4 tablespoons brown sugar
Pepper and salt

Put all the ingredients in a saucepan; boil 30 minutes. Serve with rice.

(*b*) Okra and tomatoes stewed together in the proportion of 1 to 1 and seasoned with salt make a delicious vegetable stew.

TURNIPS, RUTABAGAS, OR KOHLRABI

(*a*) 3 cups sliced vegetable
2 tablespoons pork fat
Salt and pepper

Wash and pare the vegetable; cut in small pieces; cook in boiling salted water until tender. Drain, mash thoroughly, and season with salt and pepper. Reheat the mashed vegetable in the pork fat, allowing 1 tablespoon of fat to 1 cup of mashed vegetable. Serve hot.

(*b*) Cook the vegetable whole; season and serve.

BOILED CARROTS OR BOILED RADISHES

Wash and scrape the carrots or the radishes; split in halves or slice crosswise; cook in boiling salted water (about 45 minutes) until soft. Drain; season with salt, pepper, and fresh pork fat.

BOILED BEETS

Wash the beets, being careful not to break the skins. If the beets are too old to use the leaves, cut the leaves off about 10 centimeters from the roots; otherwise much of the flavor and the color of the beet is lost in cooking. Cook in boiling water (from 1 to 4 hours) until tender. Drain, put in cold water, and rub the skins off. Cut in slices, sprinkle with a little salt, and cover with vinegar. Young beets will cook in less than 1 hour; old beets require much longer. Sliced beets may be seasoned with butter, salt and pepper, and served hot.

STEWED CORN

2 cups raw corn
1 cup boiling salted water
1 cup hot milk (coconut milk preferred)
1 tablespoon pork fat
1 teaspoon flour
Salt and pepper

Cut the corn from the cob with a sharp knife; put it in the water; place over the fire. Stew gently 10 minutes; add milk and cook 10 minutes. Mix the flour and the pork fat; stir into the corn and cook a minute. Season with salt and pepper.

GREEN CORN WITH SHRIMPS

10 ears corn
1 onion
20 shrimps
4 tablespoons lard
½ head garlic
Salt
Shrimp juice

Husk the corn; cut the grain from the cob. Chop the onion. Peel the shrimps; make the shrimp juice. Brown the garlic in lard; add the onion, the shrimps, the shrimp juice, the corn, and the water; boil until tender.

CORN BOILED ON THE COB

Select tender young ears; cook as soon as possible after gathering. Remove part of the husk; turn back the rest and pick off the silk. If insects have been on the ear, trim well. Pull the husks back over the ear and tie with a piece of husk. Barely cover with boiling water; bring to a boil; simmer for 10 minutes. Drain, and remove the husks; serve hot. All of the husks may be removed before cooking if desired.

GUINATAN

1 cup diced camotes
3 saba bananas
1 cup diced ubi or gabi
½ cup brown sugar
1 cup pure coconut milk
2 cups nanca
2 coconuts reduced to 4 cups diluted coconut milk

Prepare 1 cup of pure coconut milk and set aside. Prepare the diluted coconut milk. Dice the ubi and the camote. Cut the bananas in thick slices. Shred the soft part of the nanca. Put the diluted coconut milk in the pot with the ubi or the gabi; boil 8 minutes; add the camote and cook 5 minutes. Add the bananas and the nanca; when these are cooked, stir in the sugar and remove the pot from the fire. Let the mixture cool 5 minutes. Then pour in the cup of pure coconut milk and serve at once.

SUCCOTASH (CORN AND BEANS)

2 cups raw corn
2 cups shelled beans
3 cups boiling salted water
1 cup hot milk (coconut milk preferred)
1 tablespoon pork fat
Salt and pepper

Cut the corn from the cob; put in a saucepan with the beans and the boiling water; boil until the vegetables are tender; add ½ cup of canned milk, or drain and add 1 cup of hot coconut milk. Cook 10 minutes; stir in pork fat; season with salt and pepper.

CORN-AND-TOMATO SCALLOP

1 cup raw corn
3 medium-sized ripe tomatoes
1 large onion
1 teaspoon salt
⅛ teaspoon pepper
1 teaspoon sugar
2 tablespoons pork fat
Crumbs

Cut the corn from the cob. Peel and slice the tomatoes. Mince the onion. Grease a baking dish; put in a layer of tomatoes; sprinkle with the salt and the pepper, with the sugar, and with a little of the onion. Cover lightly with crumbs and add a layer of corn; continue this until all ingredients are used. Cover the top with crumbs; add 2 tablespoons of pork fat. Bake in a moderate oven.

BOILED MONGOS

½ cup mongos
1 large onion
2 tablespoons cooking fat
Salt and pepper

Wash the mongos; cover with cold water; bring quickly to a boil. Drain; rub off the husks; cover with boiling water; boil until well done. Drain again. Slice the onion; sauté in fat until clear and soft, but not until brown; add the mongos. Season with salt and pepper. Serve hot.

MONGOS AND RICE

½ cup mongos
½ cup rice
½ cup stewed tomatoes
2 tablespoons lard
1 onion
Salt and pepper

Wash the mongos and the rice; boil separately. Slice the onion; sauté in lard until clear and soft, but not until brown; add the boiled rice, the boiled mongos, add the stewed tomatoes. Season with salt and pepper. Heat thoroughly. Serve hot. Mongos are inexpensive food and may be used occasionally in the place of meat.

BAKED BANANAS

6 bananas
2 tablespoons butter
3 tablespoons sugar
1 tablespoon lemon or lime juice

Peel the bananas; split in halves; place in a shallow granite pan. Melt the butter; stir in the sugar and the lemon or lime juice. Pour one half of the mixture over the split bananas. Put the pan in a moderate oven; bake 20 minutes. While baking, baste the bananas occasionally with the rest of the mixture.

GREENS (FOR 12 PERSONS)

For base, use—

6 bundles of leaves of either pechay, camotes, radishes, beets, mustard, or endive
½ kilo fresh pork

For garnish, use—

6 large fresh ripe tomatoes
1 large onion
3 hard-boiled eggs

For French dressing, use—

2 tablespoons vinegar
½ teaspoon salt
¼ teaspoon pepper
6 tablespoons olive oil

Sort the greens; be sure no insects cling to them; use only perfect leaves; wash in several changes of water. Boil the greens with pork (about 30 minutes) until tender, using only enough water to cover the leaves. Drain thoroughly; place on a platter with the pork in the center; garnish with slices of raw onion, slices of ripe tomato, and slices of hard-boiled eggs; cover with French dressing. If preferred, omit the French dressing and season with salt, pepper, and a little vinegar.

BAMBOO SPROUTS

Bamboo sprouts may be used for greens. Remove the outside. Scrape the inside very fine or cut in thin slices; put in boiling water or in coconut milk; boil 30 or 40 minutes. Bacon may be boiled with them or they may be seasoned with a little fresh pork fat, and pepper.

ALUGBATI WITH SHRIMPS

3 bundles alugbati (libato) or other greens
2 tomatoes
2 cups cold water
1 cup peeled shrimps
2 tablespoons lard
Salt

Peel the shrimps and slice the tomatoes. Sort and wash the alugbati; see that no insects cling to the leaves. Heat the lard in a frying pan; sauté the tomatoes and the shrimps. When partly browned, add the water and bring to a boil; add the alugbati and boil until tender. Season with salt. Chopped meat may be substituted for the shrimps. All greens may be cooked in this way.

KILAWIN

1 banana bud
10 large shrimps
½ cup vinegar
2 tablespoons lard
½ cup shrimp juice
3 cloves garlic
1 small onion
Salt and pepper

Slice the tender part of the banana bud; sprinkle with salt and crush with the hands, squeezing out the bitter juice; wash well. Shell the shrimps; make juice; add the shrimps; cook for a few minutes, stirring constantly; add the vinegar, the banana bud, the water; cook until well done. Season with salt and pepper.

KALE

Kale may be cooked like cabbage. Remove imperfect leaves and stalks; wash thoroughly; cook in enough boiling salted water to cover. When tender, season with salt, pepper, fresh pork fat, and a little vinegar or cook the kale with pork, and season with salt, pepper, and vinegar.

ENDIVE

The curled leaves of endive may be used for greens or they may be blanched and used for salad.

BOILED CABBAGE

Remove the outside leaves; cut off the stalk; cut the cabbage in quarters; soak in cold salted water for 30 minutes. Cook until tender in boiling salted water. Drain and chop fine. Season with salt and fresh pork fat.

BAKED CABBAGE

Prepare the cabbage as above; place in a baking dish; cover with white sauce and crumbs; bake until brown.

FRIED BANANAS

Cut bananas lengthwise in quarters; fry or sauté. Sugar may be added if desired.

LUMPIA

1 onion
4 cloves garlic
¼ kilo pork
½ cup cooked garbanzos
1 potato
1 radish
20 shrimps
½ cup cooked beans
1 cup chopped cabbage
2 cakes bean cake
1 sincamas
4 tablespoons lard
4 ripe tomatoes

Cut the pork, the potato, the radish, the cabbage, and the sincamas in small pieces. Cut the bean cake in cubes. Wash and shell the shrimps; cut the shrimps in small pieces; soak in enough cold water to cover the pork and the vegetables while cooking.

Put the lard in a frying pan or in a carajay; fry the garlic, then the onion and the tomatoes. Add the pork, the shrimps, and the vegetables; simmer for a few minutes; cover with the shrimp water and cook until tender. When done, remove from the carajay and place in a bowl.

To make the sauce for lumpiá, mix 5 tablespoons of flour and 1 cup of cold water. Put this in a stewpan; add toyo and brown sugar to suit the taste; cook over a slow fire until thick, stirring constantly. When done, remove from the fire.

Apa (the wrapping for lumpiá) may be bought at the market. Rub one sheet with the sauce; place on the sheet 2 or 3 fresh lettuce leaves; on the leaves place 2 tablespoons of the filling. Form into a roll. Serve with garlic chopped fine.

BAKED GREEN PAPAYA STUFFED WITH SCALLOPED TOMATO

Pare and seed small green papayas; cut in halves; put in salted hot water; boil until tender; drain. Put 1 tablespoon of pure cooking fat in a frying pan; when hot, add 1 cup of bread crumbs and brown them. To 1 cup of tomatoes, add ½ teaspoon of salt, 1 teaspoon of sugar, and a little pepper; mix with the browned crumbs. Fill the halves of papaya; put them in a baking dish; pour over them a thin white sauce; place in the oven and brown slightly.

HULLED CORN OR HOMINY PREPARED BY USE OF LYE

3 cups wood ashes
2 liters cold water
2 liters dry corn

Put clean guava-wood ashes or any other hardwood ashes in cold water; boil 30 minutes. Leave until the ashes settle to the bottom. Pour off the clear water, which should feel a little slippery; to this water add the corn; cover with more water; boil until the hulls begin to come off. Drain. Wash the corn in cold water until there is no taste of lye; then rub vigorously with the hands to remove the hulls; put the hulled corn or hominy in clear water and boil until tender.

Hulled corn is a wholesome food. It may be eaten with shredded coconut and salt, or with shredded coconut and sugar, or it may be reheated in pork or in bacon fat, or it may be served with a thin white sauce.

HULLED CORN OR HOMINY PREPARED BY USE OF LIME

2 tablespoons lime
1 liter dried corn
1 coconut
Salt

Soak the corn 2 hours. Dissolve the lime in a little water. Wash the soaked corn; add the lime and enough boiling water to cover; boil until the hulls begin to loosen. Remove from the fire and pour into a basket to cool; then rub to remove the hulls. Rinse many times. Add enough boiling water to cover; cook until tender. Drain, and add salt to suit the taste. Serve with grated coconut.

PUFFED CORN

To puff corn proceed as in the preparation of hominy until the hulls are removed, after which dry it in the sun. Toast it in a carajay over an open fire.

BEAN-AND-POTATO PUFF

1½ cups bean pulp
1 cup mashed potato or camote
½ cup bread crumbs
1 beaten egg
½ small onion

Blend all the ingredients; season with pepper and salt; drop by spoonfuls on a greased tin; bake in a moderate oven until puffy and brown. Put on a platter and garnish with parsley.

BAKED EGGPLANT

1 large eggplant
1 cup bread crumbs
3 large ripe tomatoes
½ cup cold rice
1 beaten egg
Salt and pepper

Pare the eggplant; cut in 2-centimeter slices; steam until soft. Scald and peel the tomatoes, press them through a sieve. Mix all the ingredients together; season, and bake in a greased baking dish.

FRITTERS AND CROQUETTES

TO CLARIFY FAT

Set the fat over a slow fire where it will melt slowly. Pare and wash a potato; cut in slices. Dry the slices; add to the melting fat. When the fat has ceased to bubble and when the slices are well browned, strain through a cloth. Since potatoes are porous, they gather sediment and absorb odors or gases that may be present in the fat; some of the sediment will be removed in straining.

TRYING OUT FAT

Cut or chop the fat or suet fine; put in a kettle and set over a fire; add a little water. Simmer until the fat is clear and until the membranes are a golden brown. When the fat is free of water, it stops bubbling. Strain into a tin pail.

FRITTER BATTER

1 cup liquid
⅔ cup flour
½ egg
¼ teaspoon salt

Mix thoroughly.

BANANA FRITTERS

Split the bananas lengthwise; sprinkle with sugar; add a little lemon or lime juice if desired; drop in fritter batter and fry in deep fat.

CORN FRITTERS

1 can corn or same quantity corn cut from cob
1 cup flour (less if fresh corn is used)
1 teaspoon baking powder
2 teaspoons salt
2 eggs
2 tablespoons milk

Chop the corn; add the dry ingredients mixed and sifted; add the yolks of the eggs beaten until thick; fold in the whites beaten stiff. Drop by spoonfuls in deep hot fat. When cooked and browned, drain from the fat; sift sugar over them and serve. Be sure the inside of each fritter is done.

EMPANADA

2 potatoes
½ cup seeded raisins
½ cup seeded olives
½ kilo chopped beef or pork
2 hard-boiled eggs
1 teaspoon salt (for paste)
1 onion (minced)
1 head garlic (sliced)
Salt and pepper
4 cups wheat or rice flour (for paste)
4 tablespoons lard (for paste)
1 cup cold water

Dice and sauté the potatoes; remove them from the frying pan. Sauté the onion and the garlic; add the meat; cook a few minutes; add the olives and the raisins. Season with salt and pepper; add the potato and the chopped boiled eggs. Make a stiff paste of the flour, the lard, and cold water; roll it out and cut in squares. Fold some of the mixture into each square; press the edges together and fry in deep fat.

SPROUTED MONGOS

3 cups sprouted mongos
4 large potatoes
1 large onion
2 tablespoons lard
2 cups shrimps
4 pieces bean cake
4 heads garlic
Salt

Clean the mongos; boil for 20 minutes. Chop the potatoes and the bean cake. Slice the onion. Brown the garlic; add the onion, the shrimps, the potatoes, the bean cake, the juice of the shrimps, and the mongos. Cook until tender. Cool the mixture; wrap in apa; cover and fry in deep hot fat until all sides are brown.

MONGO CROQUETTES

4 cups mongos
1 head garlic
¼ kilo meat
1 onion
2 tomatoes
3 teaspoons salt
1 cup water
Bread crumbs
2 eggs

Boil the mongos. Chop the meat. Sauté the garlic and the onion; add the boiled mongos and 1 cup of water; cook 20 minutes, adding more water if needed. Cool the mixture and form it into balls; dip the balls in beaten eggs; then in bread crumbs; fry in deep fat until brown.

UBI CROQUETTES

2 cups mashed cooked ubi
2 eggs
1 tablespoon onion juice
Salt and pepper
A little milk
Fine bread crumbs

Beat the yolks of the eggs; mix them with the mashed ubi and a little milk; add the salt, the pepper, and the onion juice; leave until cold. Form into cylinders about 10 centimeters long; roll in the whites of eggs (beaten enough to break them up) and then in fine bread crumbs. Fry in deep hot fat until brown.

RICE CROQUETTES

In the classroom, use—

¼ cup cooked rice
2 tablespoons egg
¼ tablespoon fresh pork fat
Salt and pepper
Fat for frying
Cube of bread (to test fat)
Egg and crumbs (for crumbing)

At home, use—

2 cups cooked rice
1 egg or 2 yolks
1½ tablespoons fresh pork fat
½ teaspoon salt
⅛ teaspoon pepper
2 tablespoons chopped parsley
Fat for frying
Egg and crumbs (for crumbing)

Put the fat in the kettle; place over the fire to heat. Cut the parsley fine. Mix all ingredients thoroughly. Form the mixture into round balls. Break the egg into a plate; add 2 tablespoons of water; beat until the yolk, the white, and the water are well blended. Roll each ball in the egg, then in the crumbs. Test the fat for a cooked mixture; when the fat is hot enough, place not more than three croquettes in it at a time; and fry until a golden brown. Remove from the fat and drain. Serve on a hot platter. Garnish with parsley.

EGGPLANT CROQUETTES

5 eggplants (medium size)
3 eggs
1 tablespoon flour
5 tablespoons lard
3 onions
Salt

Boil the eggplant until tender; remove from the water; press out as much water as possible with a fork. Mince the onions. Beat the eggs and mix them with the flour. Add the mashed eggplant, the minced onions, and the salt. Fry the eggplant by spoonfuls in the fat. Turn each croquette over when one side is brown.

BANANA CROQUETTES

3 bananas
1 cup flour
2 teaspoons baking powder
1 tablespoon powdered sugar
¼ teaspoon salt
¼ cup milk
1 egg
1 tablespoon lemon juice

Mix and sift the dry ingredients. Beat the egg until light; add the milk. Combine the two mixtures. Force lemon juice and the bananas through a sieve or mash them thoroughly with a spoon; add to the mixture. Fry by spoonfuls in deep fat and drain. Serve hot.

SANDWICHES

COLD-MEAT SANDWICHES

Cut a thin slice of cold meat; sprinkle it lightly with salt and pepper; place it between two thin slices of bread. Ham, beef, mutton, chicken, pork, goat, or any other kind of meat may be used. The meat may be chopped, seasoned, and used as a filling.

SALMON SANDWICHES

Open a can of salmon; pour out the contents at once into a bowl or into a dish of earthenware. Shred the salmon; add the crumbled yolks of 6 hard-boiled eggs. Season with onion juice, with vinegar, or with any good salad dressing. Spread between thin slices of bread.

SWEET SANDWICHES

Sandwiches may be made by spreading various kinds of jam between slices of bread.

COCONUT SANDWICHES

Mix 1 cup of grated coconut, ¼ cup of white sugar, 1 teaspoon of lemon juice, and 1 tablespoon of coconut milk. Spread the mixture between slices of bread

PIMENTO SANDWICHES

Cut the bread in thin slices; cover one slice with butter and with narrow slices of pimento; moisten with a little mayonnaise; cover with another thin slice of bread. The filling may also be made of cream cheese and chopped pimento moistened with mayonnaise.

SALADS AND SALAD DRESSINGS

FRENCH DRESSING

½ teaspoon salt
¼ teaspoon pepper
3 tablespoons olive oil
1 tablespoon vinegar

Rub the salad bowl with a clove of garlic. Stir the oil into the salt and the pepper; add the vinegar; beat vigorously until the dressing thickens slightly.

MAYONNAISE

½ teaspoon salt
2 yolks of eggs
1½ cups olive oil
2 tablespoons vinegar
2 tablespoons lemon juice
Paprika

Mix the salt, a dash of paprika, and the yolks of 2 eggs; beat into this the vinegar and the lemon juice; add the olive oil, 1 teaspoon or more at a time, beating with an egg beater. By adding all the acid before the oil, curdling can be prevented. If all the ingredients are as cold as possible, the mixture will thicken rapidly.

COOKED SALAD DRESSING

1 teaspoon salt
¼ teaspoon cayenne pepper
2 tablespoons butter
3 yolks of eggs
1 teaspoon mustard
1 teaspoon sugar
1 cup boiling water
1 tablespoon vinegar
2 teaspoons flour

Mix the dry ingredients in a bowl; stir in the slightly beaten yolks and the melted butter; stir in the boiling water; put in a double boiler and heat, stirring constantly. When the mixture begins to coat the spoon, add gradually the vinegar mixed with 2 tablespoons of hot water, beating all the time. Strain and cool.

CHICKEN-SALAD DRESSING

3 eggs
1 tablespoon vinegar
¼ teaspoon pepper
½ teaspoon salt
3 tablespoons olive oil

Boil the eggs until hard; use the whites in the salad. Mash the yolks; add the vinegar, the salt, and the pepper; add the oil, little by little, beating constantly.

CHICKEN SALAD

(a) 1 onion
1 chicken
Lettuce
1 can peas
6 potatoes
5 fresh eggs

Boil the chicken; remove the meat from the bones; chop in small pieces. Boil the potatoes; when cold, cut in small cubes. Open the can of peas; remove the peas at once, straining off the liquor; pour boiling water over the peas and let stand 5 minutes; drain thoroughly. Boil the eggs until hard; peel and quarter them. Peel the onion; cut in thin slices. Mix the chicken, the peas, the onion, and the potatoes; use the eggs, some of the onion, and a few peas for garnishing. Arrange the salad on a bed of lettuce and pour the dressing over it.

(b) 3 cups minced chicken
1 cup boiled rice
3 tablespoons oil
½ cup minced onion
1 tablespoon vinegar
Salt and pepper

To the minced chicken add the boiled rice and the minced onion; sprinkle with salt and pepper. Stir the vinegar into the oil; pour over the salad and mix thoroughly.

LETTUCE SALAD

Wash the lettuce leaves and serve with French dressing.

PECHAY SALAD

The leaves of the pechay are a good substitute for lettuce leaves with meat and vegetable salads.

ENDIVE SALAD

The curled leaves of endive may be blanched and used for salad.

PACO SALAD

Scald the new fronds of the paco; when cold, serve with French dressing.

SHRIMP SALAD

Mix cooked shrimps with lettuce cut fine; add salt, pepper, and vinegar.

CUCUMBER SALAD

Cut off both ends of the cucumber; pare and slice; leave in cold water 30 minutes; drain thoroughly; arrange on a bed of greens; pour French dressing over it.

PEPPER AND POMELO SALAD

Select long sweet green peppers; split them in halves; remove the seeds; fill with pomelo pulp and peanut kernels broken in pieces; allow 5 peanut kernels to each pepper; garnish with nuts; serve with vinegar, salt, and oil.

HOT SLAW

½ small cabbage
2 tablespoons butter
1 cup vinegar and water

Chop the cabbage; cover with salted water; cook slowly 1 hour. Drain. Simmer 15 minutes in the vinegar, the water, and the butter. Season to suit the taste.

COLESLAW

Soak ½ small cabbage in cold salted water for 30 minutes; shred fine and mix with 1 cup of hot cooked salad dressing. Serve cold.

DRESSING FOR COLESLAW

2 eggs
2 tablespoons sugar
Butter
½ teaspoon mustard
½ cup vinegar
Pepper

Beat the eggs with the sugar; add a piece of butter half the size of an egg; add the mustard, the pepper, and the vinegar. Cook like a soft custard. Less vinegar may be used and a little cream added when the dressing is cold.

TOMATO SALAD

Remove the skins from the tomatoes; slice and serve with French dressing or with salt and pepper.

TOMATO-AND-PINEAPPLE SALAD

Remove the skins from the tomatoes; cut a thin slice from the top of each; remove the seeds and some of the pulp. Sprinkle the inside with salt and let stand in a cool place 30 minutes. Use two parts of shredded pineapple to one part of finely broken roasted peanuts; mix with vinegar, oil, and salt. Stuff the tomatoes with this; garnish with nuts and with slices of tomatoes.

TOMATO-AND-CORN SALAD

Pour boiling water over large smooth tomatoes and remove the skins; set away to cool. When cold, remove the centers of the tomatoes with a spoon; fill the cavity with cold boiled corn (cut from the cob) mixed with salt and pepper; arrange the tomatoes on a platter covered with either paco, pechay, or lettuce leaves. Cover with French dressing.

VEGETABLE SALAD

Cook potatoes, carrots, beets, radishes, string beans, and peppers. Cut them in small pieces; season with salt; mix together thoroughly. Line a large platter with crisp lettuce leaves; arrange sliced onions, sliced tomatoes, sliced radishes, and sliced cucumbers around the edge. Pile the chopped vegetables in the center; scatter minced green garlic and kinchay over the top. Pour French dressing over the uncooked vegetables.

TOMATO-JELLY SALAD

Stew enough ripe tomatoes to make a quart of tomato sauce. Season with salt, pepper, onion juice, a little sugar, and 2 laurel leaves. While boiling, stir in ¾ cup of gulaman which has been washed and cut in short pieces. When the gulaman dissolves, strain into a mold. When firm, slice; garnish with lettuce and cover with French dressing. When cut in small cubes, this jelly makes a pretty garnish for cold meats.

BAMBOO SALAD

Select and shred a tender young bud; cover with cold water; bring to a boil. Drain, and cover again with cold water; boil until tender; drain again when cold. Add salt, pepper, vinegar, and oil; let stand until well seasoned. Garnish with onion, tomato, and hard-boiled eggs.

FISH SALAD

Fill the center of the dish with cold boiled fish cut in pieces. Put over it a generous supply of vinegar, salt, pepper, oil, and shredded onion. Garnish with slices of onion, with slices of tomato, and with slices of hard-boiled eggs.

KATURAY SALAD

Wash 4 double handfuls of the white petals of the flowers of katuray; cover with boiling water; cook until tender; drain. When cold, garnish with onion, tomato, and hard-boiled eggs. Serve with French dressing.

BANANA SALAD

Peel large bananas; scoop out the centers, making each boat-shaped; fill with a mixture made as follows: Mix small cooked peas, chopped nuts, chopped parsley, and the banana taken from the center with stiff mayonnaise. Put walnuts and sprigs of parsley on top.

BANANA-AND-PEANUT SALAD

Peel the bananas; dip each one in white of eggs slightly beaten; roll in chopped salted peanuts. See that the banana is covered with the nuts. Put a little mayonnaise on each plate.

FRUIT SALAD.

3 bananas (sliced)	½ cup diced papaya
3 oranges	1 tablespoon lemon or lime juice
½ cup minced pineapples	

Be careful not to crush the fruit in handling. Serve with mayonnaise or with boiled dressing.

SALMON SALAD

Arrange salmon on crisp salad leaves; garnish with slices of hard-boiled eggs and with shredded onions. Serve with French dressing.

BANANA-BLOSSOM SALAD

Remove the outside leaves from a crisp heart of a banana flower; cut fine and sprinkle with salt; squeeze out as much sap as possible. Wash with cold salted water and squeeze dry. Add 1 tablespoon of vinegar, 2 centimeters of ginger root shredded, and a little salt. Cover with cold water; boil until tender; drain. When cold, garnish with slices of raw onion, with slices of tomato, and with quartered hard-boiled eggs. Serve with French dressing.

PAPAYA

Pare the papaya; remove the seeds; dice the fruit; serve cold with lemon or lime juice and a little sugar.

POTATO SALAD

3 cups hot boiled potatoes	½ cup diced onions
1 teaspoon salt	3 teaspoons vinegar
½ cup olive oil	

Dice the hot boiled potato. Stir the salt into the olive oil; beat in the vinegar; add the diced onion. Pour this mixture over the potatoes. Mix thoroughly. Put on a dish; garnish with radishes, tomatoes, and onions.

OYSTER SALAD

Clean the oysters; scald them for 5 minutes; drain and put on a plate; mix with chopped onion, vinegar, salt, and pepper.

WILTED-LETTUCE SALAD

1 sliced onion	1 tablespoon sugar
3 tablespoons meat fryings	½ teaspoon salt
3 tablespoons vinegar	2 hard-boiled eggs
3 tablespoons water	

Fry the sliced onion (until brown) in the meat fryings. Add the vinegar, the water, the sugar, and the salt; heat to the boiling point. Chop the eggs. Clean the lettuce leaves; put them in a bowl with the eggs; pour the vinegar broth over the lettuce. Serve hot.

PUDDINGS AND COLD DESSERTS

BAKED PUDDING

2 cups coconut milk
4 tablespoons brown sugar
8 tablespoons banana flour
3 eggs
¼ teaspoon salt

Heat the milk in a saucepan; when hot, stir in the banana flour moistened with cold water. Add the sugar and the salt; cook 5 minutes. Remove from the fire; when cool, stir in the yolks and then the whites of the eggs well beaten. Pour at once into a greased pan or mold. Bake. Serve with sirup or with sweetened milk.

BREAD-AND-BUTTER PUDDING

1 small loaf bread
Butter
3 eggs
½ cup sugar
¼ teaspoon salt
4 cups milk

Cut the end crusts from the bread; cut the bread in slices 1 centimeter thick; spread with butter; put the slices (buttered side down) in a buttered baking dish. Beat the eggs slightly; add the sugar, the salt, and the milk; flavor with nutmeg or vanilla. Pour this over the bread; bake in a moderate oven for 1 hour, keeping the baking dish covered during the first ½ hour. The top should be well browned. Three-fourths cup raisins, parboiled and seeded, may be sprinkled between the layers. Serve with sauce.

BIBINCA MALAGKIT

1 cup malagkit rice
1¼ cups brown sugar
1 coconut
½ teaspoon salt
½ teaspoon powdered anise

Grate the coconut; extract pure milk; set the milk aside. Add to the grated coconut enough water to make 3 cups of thin coconut milk. Wash the rice. Heat the thin coconut milk in a carajay; skim off the foam as it rises. If this foam is not removed, the bibinca will be oily. When the coconut milk boils, add the rice; cook until the rice is tender. Add salt dissolved in a little water. Add two-thirds of the sugar at the time the fire is drawn from under the rice pot. Line the clay oven (bibincajan) with a banana leaf, fitting the leaf over the bottom of the oven and half way up the sides. Pour the cooked rice on the banana leaf in the oven; pour the rest of the coconut milk over it; scatter the rest of the sugar over the top; sprinkle anise over the sugar. Cover the oven and bake about 20 minutes. Have a little fire under the oven; over the top have enough heat to melt the sugar and to brown the bibinca.

STEAMED PUDDING

2 cups flour
1 teaspoon baking soda
1 cup brown sugar
1 cup coconut milk
½ cup grated coconut
2 eggs
1 teaspoon salt

Beat the eggs; add the sugar, the salt, and the coconut. Put soda in the milk; stir until it dissolves; add to the egg mixture; stir in flour; pour into a greased lard pail or into some other deep covered tin. Steam for 1 hour in a pot of boiling water. Serve with sauce.

RICE PUDDING WITH EGGS

1 cup rice
¼ teaspoon salt
2 tablespoons butter
2 cups boiling water
1 cup sugar
4 eggs
2 cups milk
Grated nutmeg

Wash the rice; cook in boiling water until thick. Add the milk, the yolks of the eggs beaten slightly with the sugar, the salt, and the nutmeg. Put the dish containing the uncooked pudding in a pan of hot water; bake in a moderate oven until the custard is set. Cover with a meringue made of the whites of the eggs and ¼ cup of powdered sugar.

CHAMPORADO

1 cup rice
4 pieces chocolate
¾ cup sugar
5 cups boiling water

Wash the rice; sprinkle it into the boiling water. Stir occasionally to prevent the rice from sticking to the bottom. When the rice is half done, add the shaved chocolate and the sugar. Continue until the rice is done.

POTO

1 liter rice
3 cups water
¾ cup coconut milk
6 teaspoons baking powder
1½ cups sugar
Shredded coconut

Wash the rice; soak it in water for a short time; then grind it. Add the coconut milk to the ground rice. Mix the baking powder with the sugar and stir into the rice. Fill small cups nearly full of the mixture; cook in a steamer over boiling water. When well done, set the cups in cold water for a few minutes.

after which the poto can be easily removed from the cups. Serve with shredded coconut.

CALAMAY

2 cups rice flour (malagkit)
1 cup brown sugar
2½ cups thin coconut milk
½ teaspoon powdered anise
½ cup pure coconut milk
2 cups water

Grate the coconut; extract ½ cup of pure milk; set the milk aside. Pour 2 cups of water over the grated coconut and remove all the milk and strain it. Put the rice flour and the diluted milk in a carajay; place over a slow fire and stir occasionally until it is cooked. While the flour and the milk are cooking, pound and sift the anise seed. Put the sugar and the anise in the pure milk. After the rice flour has cooked 25 minutes, add the sweetened pure coconut milk; stir and cook 3 minutes. Remove from the fire and pour out on a plate to cool. Serve cold.

CHOCOLATE BLANCMANGE

2 cups coconut milk
6 tablespoons sugar
6 tablespoons banana flour
½ cup grated chocolate
1 teaspoon vanilla

Melt the chocolate in a pan set in boiling water; add 1½ cups of the milk, after which put the pan over the fire. Heat the milk; stir thoroughly and add the sugar. Moisten the banana flour with the rest of the cold milk; add to the hot milk, stirring constantly. Cook until thick and smooth. Remove from the fire; add the flavoring; pour into cups or into molds that have been dipped in cold boiled water. Serve cold with sweetened coconut milk or with meringue.

LEMON JELLY

1 coconut
3 cups boiling water
2 cups sugar
¾ cup gulaman
Juice of one lemon
2 cups cold water

Grate the coconut. Wash the gulaman; cut in 2-centimeter lengths; put in 3 cups of boiling water; boil until dissolved. Add 1 cup of sugar and strain; add the lemon juice. Pour into a shallow pan to cool. The gulaman should be about 2 centimeters deep in the pan. When hard, cut in cubes. Wash the grated coconut in 2 cups of cold water; rub and squeeze until all the flavor is removed from the meat; strain and add 1 cup of sugar. Pour this coconut milk over the lemon jelly.

SOFT CUSTARD

2 cups scalded milk
2 eggs
4 tablespoons sugar
¼ teaspoon salt
½ teaspoon vanilla

Beat the egg slightly, beating in the sugar and the salt; add hot milk slowly, stirring constantly; pour into a double boiler; cook about 5 minutes, stirring constantly, until the custard coats the spoon. Strain at once; add vanilla. Serve cold.

DOLDOL

2 cakes dark brown sugar
1 coconut reduced to 3 cups coconut milk
1 cup lumbia flour
1 cup cold water
½ teaspoon powdered anise

Boil the sugar and the coconut milk together until the sugar is melted. Mix the lumbia flour with a little cold water; pour slowly into the boiling milk, stirring constantly. Cook until thick. Remove from the fire; sprinkle the anise over the top. Serve cold.

Lumbia is a kind of palm common in Butuan. The flour is made from its stem.

PALITAO

Wash malagkit; soak for 3 hours; grind and put in a strong clean cloth bag to drain off the water. When well drained, mold the mixture into small tongue-like shapes. Drop them in a deep pan of boiling water. When they float on the boiling water, remove them and drop them in cool water for a moment. Drain, and roll in shredded coconut. Serve with sugar and toasted liñga.

PAPAYA JELLY

1 cup gulaman
Juice of 1 lemon
1½ cups boiling water
1 cup papaya meat
½ cup sugar

Wash the gulaman in cold water; dissolve in boiling water; strain, and add the sugar. When cool, add the ripe papaya and the lemon juice. Put in a cool place to harden.

SUMAN

5 cups coconut milk
1 liter rice (pilit)
1½ cups sugar
1½ teaspoons anise

Wash the rice; pour coconut milk over the rice; add the sugar and the anise seed. Cook until the rice absorbs the milk; remove from the fire. Divide banana leaves in sections about 20 centimeters long and 5 centimeters wide. Soften them over the fire; wipe them with a clean cloth. Put 1 heaping tablespoon of the cooked mixture in each piece of leaf; form it into a roll, folding over the ends of the leaf. Tie the rolls together by twos, with the folded edges of the leaf inside. Put the rolls in a kettle; cover with water; cook until the rice is well done.

TIKITIKI (RICE BRAN) CUSTARD

8 tablespoons tiki-tiki
1 cup boiling water
4 tablespoons sugar
1 cup milk
4 eggs
Salt

Put the tikitiki in the boiling water; cook over boiling water for at least 20 minutes. Strain through sinamay. Break the eggs into a saucepan; add the sugar; stir until well mixed. Stir in the cooked tikitiki; add the milk and the salt; cook over boiling water until it reaches the consistency of custard.

Variations—

Cook the tikitiki in juice of cajel and omit the milk.
Use water instead of milk.
Use caramel for sugar.
Use cornstarch in place of part of the egg.
Flavor with caramel.
Add 1 tablespoon of chocolate to each tablespoon of sugar.
Thicken with gulaman or with arrowroot.
Thicken with sago and serve with lemon juice.

POTO MAYA

1 liter rice (pilit)
1 young coconut (grated)
2 cups white sugar

Clean and cook the rice in the usual way. Form into little mounds with a cup; arrange neatly on a platter; put grated coconut and sugar on each mound.

FROZEN DESSERTS

VANILLA ICE CREAM

4 cups rich milk
½ cup sugar
1 teaspoon vanilla

Mix the ingredients and freeze.

COCONUT ICE CREAM

Add grated coconut to vanilla ice cream.

CHOCOLATE ICE CREAM

1 cup milk
2½ tablespoons sugar
1 tablespoon cocoa
¼ teaspoon vanilla

Mix the cocoa with a little hot water; boil 1 minute; mix with the milk and the sugar; add the vanilla and freeze.

MILK SHERBET

1 cup milk	2 tablespoons sugar
4 tablespoons lemon juice	

Mix the ingredients in the order given; strain, and freeze.

LEMON ICE

¼ cup sugar	½ cup water
2 tablespoons lemon juice	

Boil the sugar and the water together; cool; add the lemon juice; strain, and freeze.

ORANGE ICE

¼ cup sugar	½ cup orange juice
½ cup water	½ tablespoon lemon juice

Follow the directions for making lemon ice.

FRUIT ICE

Rub the fruit through a coarse strainer into a large bowl. Pour water through the strainer. Sweeten, stir, and freeze. Do not make too sweet. Ripe mangoes or ripe papaya make delicious ices.

TUTTI-FRUTTI

3 oranges	1 cup sugar
3 lemons	3 bananas
3 cups water	

Follow the directions for making fruit ice.

FRUITS

STUFFED PINEAPPLE

Select a large perfect pineapple; cut the top off smooth; scoop out the inside, being careful not to break the sides of the pineapple; dice the pulp and put with it half as much orange; add as much diced banana as you have orange; add 1 dozen maraschino cherries, halved; add a few teaspoons of the liquor from the maraschino cherries. Stuff the pineapple with this mixture; set in a cool place and leave until cold. On the stuffed pineapple place the top with the tuft of leaves on it, before sending it to the table.

SLICED PINEAPPLE

Pare the pineapple; remove the eyes with the point of the knife. Cut in thin slices; sprinkle with sugar; serve as cold as possible.

AMBROSIA

1 coconut
6 juicy oranges
1½ cups white sugar
1 pineapple

Grate the coconut. Pare the pineapple; pick it into small pieces with a fork; sprinkle with sugar. Peel the oranges; cut in small pieces; cover with sugar. Mix the pineapple, the oranges, and the coconut; add the rest of the sugar. Serve as cold as possible.

GULAY (GUAVA)

50 ripe guavas
2 coconuts
¼ teaspoon salt
1½ cups sugar

Peel the guavas; drop them at once in cold water to avoid discoloration. Put in an enameled kettle; cover with water; cook until soft. When soft, cut the guavas in halves; remove the seeds. Put the seeds in a sieve or in a piece of cloth; rub the seeds to get the juice out of the pulp sticking to them; if water is needed in this process, use the water in which the guavas boiled. Grate the coconuts; squeeze out 1 cup of rich milk. Squeeze the coconut again to get enough thin milk to finish cooking the guavas. When making the thin milk, use water in which the guavas boiled. Cook the guavas again in the thin coconut milk and the juice from the seeds. When soft, stir in the salt, the sugar, and the rich coconut milk. Remove from the fire.

SLICED BANANAS

Slice the bananas; sprinkle with sugar (caramelo preferred); serve with coconut milk or with fresh milk.

GREEN-PAPAYA SAUCE

Shell a handful of green tamarinds; wash and cover with cold water; stew 20 minutes. Drain the water into a saucepan; add a cup of sugar. Peel and slice enough papaya to fill 4 cups. Pour the sweetened tamarind water over the papaya; cook slowly until the papaya is soft. Flavor with a little cinnamon.

ORANGE-AND-PAPAYA MARMALADE

To 6 cups of ripe papaya cut in small pieces, add ½ cup of orange juice. Boil 15 minutes and add half as much sugar as pulp. Boil again for 15 or 20 minutes.

RHUBARB SAUCE

Select tender stalks of rhubarb; wash carefully; cut off the green tops with a sharp knife and throw them away. Cut the stalks in pieces about 2 centimeters long; place in a double boiler; barely cover with cold water; simmer until tender. When you think the rhubarb is tender, test it with a fork; add 1 cup of granulated sugar to each liter of rhubarb; boil hard for 2 minutes. Pour into a dish to cool. Rhubarb is grown in Benguet.

ROSELLE SAUCE

Use 1 liter of water to 4 liters of seeded calyxes; cook to a jam; cool and sweeten to suit the taste.

MANGO SAUCE

(*a*) Peel and slice enough green mangoes to fill 2 cups. Peel and slice enough green papaya to fill 2 cups. Fruit just beginning to ripen is best. Cover with a cup of sugar; let stand a few minutes until there is juice enough to cook the fruit. Put over the fire; stew until tender. When cool, flavor with a little cinnamon or nutmeg. Add more sugar if desired.

(*b*) Peel and slice mangoes just beginning to ripen; add enough water to prevent scorching; stew until tender. When cold, sweeten to suit the taste. Flavor with a little nutmeg.

LATIK

Extract milk from the meat of 2 coconuts. Put 4 lumps of native brown sugar in a stewpan (using the brown sugar that is molded in coconut shells); add a little water; heat until the sugar is melted; strain through cotton cloth; this cleans the sugar. Pour the sugar into the coconut milk; cook in a deep stewpan, stirring occasionally, until it reaches the consistency of honey. Latik is very palatable when eaten with hot cakes or with hot biscuits.

CANDIES AND DULCES

COCONUT CANDY

(*a*) 2 cups sugar
½ cup water
1 teaspoon vanilla
2 cups shredded coconut

Boil the sugar and the coconut; boil again until it *ropes*. Remove from the fire; beat until thick; drop by spoonfuls on buttered plates or on waxed paper.

(*b*) 1 cup brown sugar
1 cup white sugar
½ cup coconut milk
3 teaspoons butter
1 cup shredded coconut
½ teaspoon vanilla

Put the sugar, the milk, and the butter in a saucepan; mix and cook to a soft ball. Remove from the fire; add the vanilla and the coconut; beat until creamy; pour into a platter. When cool, cut in squares.

(*c*) To 2 cups of rich coconut milk (extract this milk by using hot water) add 2 cups of sugar; heat to a boil. Drop 1 peeled lime in the boiling candy. Boil without stirring until a little of it thickens when dropped in cold water. Remove the lime and pour the candy out on a buttered plate; as soon as cool enough, pull until creamy.

COCONUT DULCE

To the grated meat of a coconut, add ½ kilo of dark native sugar; cook until it is thick.

COCONUT DROPS

Beat the whites of 5 eggs until stiff; add 1 cup of fine white sugar and 2 cups of shredded coconut which has been dried in the oven; mix and drop on buttered paper; put in a hot oven and brown.

FUDGE

For ½ kilo of fudge, use—

2 cups granulated sugar
¾ cup milk
A lump of butter about the size of a cube of sugar
1 teaspoon vanilla
4 heaping tablespoons cocoa or chocolate

Put the sugar, the milk, the butter, and the cocoa in a saucepan; put the pan over the fire; cook slowly without stirring. Do not let it burn. Cook until a little of it thickens when dropped in cold water. Then remove the pan from the stove; add vanilla; beat with a spoon for 3 minutes; pour the fudge out on a greased plate or on a baking tin; leave it in a cool place to harden. When firm, cut in squares with a knife. Pilinuts or peanuts may be added just before the fudge is poured out to cool.

CANDIED PINEAPPLE

Peel and slice a large pineapple. Put the fruit in a kettle with 2 cups of sugar and ½ cup of water; boil until the fruit is tender. Remove the fruit and spread it on a dish to cool. Boil the sirup until a little of it thickens when dropped in cold water. Return the fruit to the kettle; stir for 5 minutes in the sirup; then spread the candied pineapple on platters to cool and to harden.

PAPAYA AND GINGER

Make a sirup of 1 cup of sugar, ½ cup water, a little finely sliced dried ginger, and a few slices of lemon. Add 2 cups of sliced half-ripe papaya, which has previously simmered in water until clear, but not until broken.

PANOCHA

3½ cups brown sugar
¾ cup rich coconut milk.
1 teaspoon vanilla

If the dark brown native sugar is used, add ½ teaspoon baking soda. Mix the sugar, the milk, and the soda (if used) in a saucepan; boil until the mixture *ropes*. Remove from the fire; add the vanilla, and beat until thick. Pour out on buttered plates to cool. As soon as firm cut in squares with a sharp knife. A cup of chopped nuts may be added to the candy just before it is poured out.

PEANUT BRITTLE

2 cups sugar
1 cup peanuts

Rub the brown skins from roasted peanuts; chop the nuts fine; put them in a slightly buttered pan, placed where it will keep warm. Melt the sugar; when it is a clear yellow sirup, pour it over the peanuts. Cut the candy in squares while it is still warm.

POP-CORN BALLS OR POPPED-RICE BALLS

1 bowl pop corn
½ cup granulated sugar
4 tablespoons water

Put the sugar and the water in a saucepan; place on the hot part of the stove; boil the sirup until a little of it hardens when dropped in cold water; then put the pan where the sirup will keep warm but where it will not boil. Dip the popped kernels (one by one) in the sirup and stick them together, until a ball is formed. Harden in a cool place. Popped malagkit rice may be used to make balls like pop-corn balls.

CAMOTE DULCE

Wash and pare the camotes; put them in cold water to avoid discoloration. Cut in slices about 1 centimeter thick; soak in limewater about 5 minutes. Wash and cover with boiling water; let stand for 3 minutes. Drain and drop in boiling thin sirup made of brown sugar and water; cook the camotes in the sirup until tender.

CANDIED LEMON OR ORANGE PEEL

Boil lemon or orange peel in water until soft. Drain, cool, and scrape away all white parts. Put the peel in boiling sirup made of equal parts of sugar and water; simmer until clear; then boil until a little of the sirup becomes brittle when dropped in cold water. Spread on a platter and dry; when perfectly dry, put away in sealed jars.

IBUS

1 liter rice (pilit)
1 coconut
2 teaspoons salt
Cold water

Grate the coconut; pour 2 cups of cold water over it; extract the milk; repeat until all of the milk is extracted. Clean the rice; cook it in the coconut milk for at least 2 hours; season with salt. When the milk is absorbed, put about 3 tablespoons of rice in a piece of banana leaf; fold neatly, tie each end loosely; make as many of these packages as is possible to make out of the amount of rice cooked; pack in a kettle; pour in the remainder of the coconut milk; add enough water to cover; cook for 1 hour. Remove from the kettle to cool. Serve with ripe mangoes or with sugar.

JELLIES, JAMS, AND PICKLES

SANTOL JELLY

Select ripe santols. Wash very carefully, and cut in small pieces; drop in cold water to prevent discoloration. Nearly cover with cold water; boil until soft. Mash and squeeze through two thicknesses of cheesecloth. Return the juice to the fire; boil until no more scum forms. Remove from the fire; strain again. Measure the juice and return it to the fire. To each cup of juice, allow 1 cup of granulated sugar. First, heat the sugar in the oven, stirring constantly to prevent burning or melting; when the juice boils, add the hot sugar to it; remove the scum as fast as it rises; boil the juice until a little of it hardens when cooled in a spoon. Seal in small sterilized glass jars. Keep in a cool, dry, dark place.

DUHAT JELLY

Select fruit that is just ripe; sort and wash; add enough water barely to cover the fruit; cook until soft; pour into a jelly bag and strain into an enameled vessel. Do not squeeze the bag. Boil the juice for 30 minutes; measure. Then add 1 cup of sugar to each cup of juice; add 2 tablespoons of lemon or lime juice to every 4 cups of duhat juice. Stir until the sugar dissolves; cook 10 minutes. Test; as soon as it jellies, pour into sterilized vessels and seal.

ROSELLE JELLY

(*a*) Wash the calyxes; put them in a saucepan of granite ware; cover with water; boil until soft. Strain through a jelly bag. Measure the juice and add an equal amount of sugar. Cook (from 10 to 20 minutes) until jelly forms.

(*b*) Wash the calyxes; add 1 liter of water to 2 heaping liters of calyxes; boil until soft. Strain through a jelly bag. To each liter of juice add ½ liter of sugar; dissolve the sugar in the juice. Cook over a slow fire (about 20 minutes) until the sirup jellies. Do not stir the sirup while boiling.

GUAVA JELLY

Select sound, fresh ripe guavas; wash, remove spots, and cut in pieces; do not pare or remove seeds; drop in cold water to prevent discoloration. Half cover with cold water; place over a fire; cook until soft, stirring frequently to prevent burning. Remove from the fire, mash, and strain through two thicknesses of cheesecloth. Return the juice to the fire; boil until no more scum forms. Remove from the fire and strain; add lime juice to suit the taste. Measure out 1 cup of granulated sugar to each cup of juice; heat the sugar in the oven, stirring constantly to prevent melting or burning. Boil the juice; add the hot sugar. Remove all scum as it rises; boil until a little of the sirup hardens when cooled in a spoon. Seal in small sterilized glass jars. Keep in a cool, dry, dark place.

An equal proportion of santols and guavas makes a good jelly.

GABI JAM

25 gabi
Coconut milk
Sugar
Flavoring

Wash and boil the gabi; when tender, peel, and mash. To every cup of gabi pulp add ½ cup of sugar and ½ cup of coconut milk; mix thoroughly; cook slowly until thick. Flavor with a little lemon or lime juice; cool and serve. The jam may be canned and kept for future use.

GUAVA JAM

Wash and pare ripe guavas; remove the seeds; drop in cold water to prevent discoloration. Nearly cover with cold water; boil until tender. Remove from the fire, mash, and measure. To each cup of pulp add 2 tablespoons of lime juice and 1 cup of granulated sugar. Boil all together until thick. Seal in small sterilized glass jars. Keep in a cool, dry, dark place.

CAMIAS JAM

Wash the camias; remove the stems and the spots. Put the camias in a kettle with a little water; boil until soft. Remove from the fire; press through a colander. Measure the pulp; to each cup add ¼ teaspoon of baking soda and 1 cup of granulated sugar. Return to the fire; boil until thick. Seal in small sterilized glass jars. Keep in a cool, dry, dark place.

PRESERVED PINEAPPLE

Wash and pare large, firm fruit; remove the eyes; cut in slices about 2 centimeters thick; remove the core. Use three fourths as much sugar as you have fruit. Put alternate layers of fruit and of sugar in the preserving kettle. Place over a slow fire until the sugar is nearly melted, then boil 5 minutes. Put the boiling preserves in sterilized glass jars; fill to overflowing and seal at once.

PINEAPPLE JAM

Wash and pare the pineapple; remove the eyes. Cut the fruit in slices and tear in shreds with a silver fork. Measure the pulp; add ¾ cup of sugar to each cup of pulp; boil until thick. Seal in small sterilized glass jars. Keep in a cool, dry, dark place.

PRESERVED GUAVAS

Wash and pare 30 large guavas which are green enough to be firm. Cut them in halves; remove the seeds, being careful not to break the halves; drop in cold water to prevent discoloration. Make a sirup of 2 cups of granulated sugar, 1 cup of water, and 2 tablespoons of lime juice. Boil the sirup 5 minutes; remove all scum. Drop the guavas in the boiling sirup; cook until transparent. Put in sterilized glass jars; fill to overflowing and seal at once. If the recipe is followed as given, the preserves should fill a 1-quart jar. If the guavas are small, more than 30 will be needed, the number depending on their size and their ripeness.

UBI JAM

2 cups cooked ubi
½ cup coconut milk
2 cups sugar
1 teaspoon anise

Mash and sift the ubi. Mix the ubi, the milk, and the sugar. Cook over a slow fire until thick. Flavor with the anise. Pour out on a greased platter to cool.

PRESERVED MANGOES

(*a*) Wash and pare large mangoes which are green enough to be firm (not hard). Cut the meat from the seeds. The seeds and the meat clinging to them may be saved for mango butter. Make a sirup of 2 cups of granulated sugar and 1 cup of water; boil 5 minutes; remove the scum. Drop the slices of mango in the sirup; cook until transparent. Put the boiling sirup in sterilized glass jars; fill to overflowing and seal at once. If the recipe is followed as given, the boiling sirup should fill a 1-quart jar. The number of mangoes needed will depend on their size.

(*b*) Select small, firm mangoes; pare, but do not cut from the seed. Then proceed as above.

SPICED MANGOES

5 cups mangoes
4 cups sugar
1 tablespoon cloves
1 tablespoon cinnamon
2 cups vinegar

Tie the cinnamon and the cloves in a thin cotton cloth; boil in the vinegar and the sugar until it turns to a sirup. Drop the strips of peeled mangoes in the sirup; boil until they assume a waxy appearance.

BAMBOO PICKLE

To make bamboo pickle, pour hot spiced vinegar over bamboo salad.

PAPAYA PICKLE

10 green papayas
1 kilo brown sugar
8 onions
3 cups strong vinegar
1 large ginger root
20 cloves garlic
10 large green peppers

Shred the papaya; sprinkle with salt; tie in a thin bag. Let the bag drip to extract the juice; then dry in the sun until needed. Pare the onion, the garlic, and the ginger; slice them thin. Remove the seeds from the green peppers; slice. Boil the sugar, the vinegar, the ginger, and the garlic together; when boiling, add the peppers; boil for 5 minutes; add the onions and the papaya; boil again. Take from the fire and (if not wanted for immediate use) seal in sterilized glass jars.

PEPPER-AND-ONION RELISH

Use equal amounts of green peppers and onions; chop them; measure out 1 teaspoon of salt, 1 tablespoon of brown sugar, ½ teaspoon of cinnamon, and 10 cloves to each cup of the chopped vegetables. Add the salt to the chopped vegetables; cover with boiling water. Cover the vessel tightly; leave until the water is cold; then drain. Put the sugar and the spices in enough strong vinegar to cover the vegetables; bring to a boil. Put the vegetables in the boiling vinegar; cook 10 minutes. Serve cold with meat or with fish.

PICCALILLI

6 cups chopped green tomatoes
1 cup chopped sweet peppers
2 cups chopped cabbage
1 cup chopped onions
1 teaspoon ground allspice
1 tablespoon celery seed
1 tablespoon mustard seed

¼ cup salt
1 tablespoon whole cloves
2 sticks cinnamon
1 teaspoon ground cinnamon
½ tablespoon black pepper
⅓ cup brown sugar
Vinegar

Wash the vegetables; chop, measure, and mix them together; add the salt; tie in a thin bag, hang up, and let drain overnight. Tie the ground spices in a small bag; put the small bag, the sticks of cinnamon, and the cloves in a pan; pour over them ¼ liter of vinegar; boil 10 minutes and strain. Next morning add the spiced vinegar, the sugar, the celery seed, the mustard, and the pepper to the vegetables, adding enough vinegar to cover. Boil 15 minutes. Put the boiling mixture in sterilized glass jars; fill to overflowing and seal at once.

BEET PICKLES

Use medium-sized beets; cut the tops off about 7 centimeters from the beet. Wash the beets, but do not peel them. Put them in a kettle with cold water; boil until tender. Take from the fire. When cool, remove the skins with the fingers. Put the beets in a bowl; add 1 tablespoon of sugar and ½ cup of vinegar weakened with ¼ cup of water. Set aside for about 6 hours before using.

CAKES, COOKIES, AND DOUGHNUTS

MILKLESS, EGGLESS, AND BUTTERLESS CAKE

1 cup brown sugar
1 cup water
½ cup seeded raisins
½ cup chopped nuts
2 cups flour

⅓ cup lard
1 teaspoon nutmeg
1 teaspoon cinnamon
1 teaspoon salt
1 teaspoon baking powder

Mix the sugar, the water, the seeded raisins, the nuts, the lard, the nutmeg, the cinnamon, and the salt; cook for 3 minutes. Cool. Sift together the flour and the baking powder; add to the first mixture. Bake in a moderate oven 40 minutes.

PLAIN CAKE

1½ cups flour
2 teaspoons baking powder
½ cup milk
⅔ cup sugar

¼ cup butter, lard, or other cooking fat
2 eggs
⅛ teaspoon salt
½ teaspoon flavoring

Sift the flour, the baking powder, and the salt together. Cream the butter and the sugar; add the well-beaten yolks of the eggs. Add the flour mixture and the milk alternately, stirring constantly. Fold in the well-beaten whites of the eggs. Bake in muffin pans. Fill each pan less than two thirds full.

LOAF CAKE

Bake the plain cake mixture in a loaf. Bake a thin loaf 40 minutes, increasing the heat after the first 20 minutes.

CHILD'S BIRTHDAY CAKE

2 heaping tablespoons butter
6 heaping tablespoons sugar
½ cup milk
1½ cups flour
1 tablespoon of lemon or lime juice
½ teaspoon salt
2 eggs
2 teaspoons baking powder

Break the eggs; put the whites in one bowl and the yolks in another; beat the whites, then the yolks. Cream the butter and the sugar; add the yolks of the eggs; beat 5 minutes; add the salt and the lemon or lime juice; mix thoroughly; add the flour and the milk (a little at a time); beat the whole until smooth and free of lumps; add the baking powder. Last of all add the whites of the eggs; stir them in with a fork. Put the dough in a buttered tin immediately; never let cake dough stand after the baking powder is in it. If you bake it in one loaf, it will take about ¾ hour. Small cakes may bake in 20 minutes.

JELLY ROLL

3 eggs
½ cup fine white sugar
Jelly
½ cup flour
⅔ teaspoon baking powder
¼ teaspoon salt
½ teaspoon vanilla

Beat the eggs until very light. Sift the flour, the baking powder, and the salt together. Mix the eggs, the sugar, and the sifted flour. Bake quickly in a large well-greased pan. Turn the baked cake out of the pan on a cloth; spread with jelly while hot; roll immediately, using the cloth to hold it. Do not mash the roll. The work must be done quickly or the cake will break in rolling. Jelly roll is nice for picnics.

HOT-WATER SPONGE CAKE

2 eggs
¾ cup sugar
½ cup hot water
½ tablespoon lime juice
1 cup flour
1½ teaspoons baking powder
½ teaspoon salt

Beat the yolks until thick; add half of the sugar; add the water, the lemon juice, and the rest of the sugar; fold in the whites of the eggs and the flour sifted with baking powder. Pour the mixture in a cake tin well greased and lined with greased paper; bake in a moderate oven until light brown. When cool, cover with frosting; mark in squares; place one-half of an English walnut on each square.

MAMON

6 eggs
1 cup flour
½ cup white sugar
Lemon or vanilla

Beat the eggs; add the sugar and beat until light. Add the flavoring. Beat in the flour gradually. When well mixed, pour into small, well-greased tins; bake in a moderate oven.

COCONUT COOKIES

¼ cup cooking fat
1 cup sugar
1 egg
½ cup rich coconut milk
1 cup grated coconut
2 cups flour sifted with 1 teaspoon baking powder

Mix in the order given.

CAMOTE COOKIES

2 cups sifted flour
½ teaspoon salt
2 teaspoons baking powder
¾ cup brown sugar
3 tablespoons shortening
1 egg
1 cup mashed camote

Put the boiled mashed camote through a sieve or through a ricer. Cream the shortening and the sugar; add the well-beaten egg and the camote. Beat until smooth; add the twice-sifted mixture of flour, salt, and baking powder. Little or no liquid will be needed. Mix until the dough formed is stiff enough to roll. Roll thin; cut with a round cutter; put on a greased tin; bake in a moderate oven (for 15 minutes) until a light brown. Bake more slowly than wheat-flour cookies.

PEANUT COOKIES

For twenty-four cookies, use—

2 tablespoons shortening
¼ cup sugar
1 egg
1 teaspoon baking powder
¼ teaspoon salt
⅞ cup flour
2 tablespoons milk or water
¼ cup chopped peanuts
½ teaspoon lemon juice

Cream the butter; add the sugar and the egg well beaten. Mix and sift the baking powder, the salt, and the flour; add to the first mixture; then add the milk, the peanuts, and the lemon juice. Drop the dough from a teaspoon on an ungreased pan, leaving 2½ centimeters between the cookies; place one half of a peanut on top of each. Bake 12 to 15 minutes in a slow oven. The ½ cup of chopped nuts can be obtained from about ⅜ liter of unshelled peanuts.

SUGAR COOKIES

For the family, use—

⅓ cup lard or drippings
1 cup white or brown sugar
¼ teaspoon salt
¼ cup coconut milk or ½ teaspoon cinnamon or nutmeg
2 eggs
2 cups flour
3 teaspoons baking powder
2 teaspoons lemon or vanilla

For an individual, use—

⅓ tablespoon lard or drippings
1 tablespoon sugar
1 teaspoon milk
⅛ egg (beat the egg before dividing)
⅛ teaspoon baking powder
Flour to make stiff dough
⅛ teaspoon lemon or vanilla or 1/16 teaspoon spice

Grease the baking tins; be sure the fire is right for baking before beginning to mix the dough. Beat the lard and the sugar together, adding the sugar little by little. Beat the yolks and the whites of the eggs separately; add the yolks to the lard and the sugar. Add the milk and the flour alternately; then add the flavoring. Cut the whites of the eggs into the dough with a knife. Sift the flour before it is measured, then sift it again with the salt and the baking powder. Roll the dough until thin; cut it in the desired shapes. Bake about 10 minutes in a hot oven. Flavor with lemon, vanilla, cinnamon, or nutmeg. Granulated sugar may be sprinkled over the top of the cookies just before they are put in the oven.

DOUGHNUTS

1⅓ cups sugar
3 eggs
1 cup milk
½ teaspoon nutmeg
2 tablespoons shortening
3½ cups flour and enough to roll
4 teaspoons baking powder
¼ teaspoon cinnamon
1½ teaspoons salt

Beat the eggs; add the milk, the sugar, and the fat; mix. Sift the flour; measure out the desired amount; add the baking powder, the spices, and the salt; sift. Add the flour gradually to the mixture of milk, eggs, and sugar, stirring constantly. If the dough is not stiff enough to roll, add sifted flour until it can be rolled. Remember too much flour in doughnuts (as well as in cookies) makes them tough. Flour the board and put half of the mixture on it; knead and pat gently to the thickness of ⅛ centimeter. Dip the doughnut cutter in flour and cut out the doughnuts. Test the fat for an uncooked mixture. When the fat is hot enough, place two or three doughnuts in it gently. When they are brown on one side, turn with a fork; do not turn them more than once. Have a pan of hot water standing by the kettle of fat; when the doughnuts are done, pick each one up with a fork (but do not pierce it with the fork) and immerse it quickly in the hot water; then drain. Reheat the fat; test it. Pick up the dough trimmings; mix them with the rest of the dough. Proceed as before. If the fat is too hot, doughnuts will sear too quickly and then they will not rise enough. Doughnuts are dipped in the hot water to remove some of the fat that clings to them. Before serving, roll doughnuts in powdered sugar. If desired, add 1 teaspoon of grated ginger to the dough and a small piece of ginger root to the hot fat; the doughnuts will then not be so greasy, less fat will be used, and the taste of ginger will scarcely be perceptible.

DROPPED COOKIES

1½ cups brown sugar
½ cup butter
3 eggs
1 level teaspoon soda dissolved in
 ¼ cup hot water
2½ cups flour
1 cup raisins
1 cup chopped nuts
Flavoring

Mix the ingredients in the order mentioned; drop the dough (from a spoon) on buttered tins.

FROSTINGS

UNCOOKED FROSTING

Beat the white of an egg until light; beat powdered sugar into it (gradually) until thick enough to spread. Flavor with ¼ teaspoon of lemon extract or with 1 teaspoon of lemon or orange juice or with ¼ teaspoon of vanilla. Spread this on the cake. Two tablespoons of melted chocolate or 2 tablespoons of shredded coconut may be used to flavor the frosting.

BOILED FROSTING

1 cup sugar
½ cup milk
1 tablespoon cocoa
1 teaspoon butter

Mix the ingredients together; boil 6 minutes without stirring. Remove from the fire; beat with an egg beater until it begins to thicken; then spread at once over cold cake. This makes a creamy frosting which does not crumble. If it does not thicken readily when beaten, boil again for 2 or 3 minutes. For flavoring, ½ teaspoon of vanilla may be added.

PLAIN COOKED FROSTING

1 cup sugar
½ teaspoon flavoring
½ cup water
1 white of egg

Boil the sugar and the water until it spins a thread when dropped from the tip of the spoon. Pour gradually over the white of the egg beaten stiff, beating constantly. Add the flavoring; beat until stiff. Spread on the cake. If the cake is not ready, set the bowl of frosting in a pan of hot water. Frosting adds to the appearance of a cake, but it may make it less digestible because of the excess of sugar. It is not good taste to serve very elaborate cakes.

DIET FOR THE SICK

LIMEWATER

Put 1 heaping teaspoon of slaked lime and 1 quart of boiled water in a bottle; cork and shake thoroughly two or three times during the first hour. The lime should then be allowed to settle. After 24 hours pour off the clear fluid carefully and save for later use.

ALBUMEN WATER

1 white of egg
½ cup cold water

Stir the white of egg with a silver fork to set the albumen free, so it will dissolve more easily; add the water gradually; then strain and serve. A few grains of salt may be added if desired.

CORN-MEAL GRUEL

2 tablespoons corn meal
½ teaspoon salt
2 cups boiling water
3 tablespoons cold water

Add the meal and the salt to the cold water; stir to a paste. Add the boiling water, stirring constantly until it thickens; boil 1 hour. Add milk or cream according to the needs of the patient.

RICE GRUEL

1 tablespoon rice
1 cup milk

Wash the rice; add to the milk and cook 1½ hours in a covered double boiler; strain, season, and serve hot or cold.

TOAST WATER

2 slices stale bread
1 cup boiling water

Cut the slices ½ centimeter thick; remove the crust. Put the slices in a pan; bake in a slow oven until thoroughly dry and until well browned. Break in small pieces; add water, cover, and let stand 1 hour; then squeeze through cheesecloth

Season with salt and serve hot or cold. This often proves beneficial in cases of extreme nausea.

DRY TOAST

Cut stale bread in thin slices; remove the crust. First hold each slice just near enough to the fire to dry it; then hold it nearer the fire until it is a golden brown on both sides.

WATER TOAST

2 slices dry toast
1 cup boiling water
½ tablespoon butter
¼ teaspoon salt

Drop the toast, one piece at a time, in boiling salted water; remove to a hot dish, spread with butter, and serve at once.

MILK TOAST

2 slices dry toast
½ tablespoon butter
¾ cup scalded milk
¼ teaspoon salt

Butter the toast; arrange on a hot dish; pour over it milk to which salt has been added.

ZWIEBACK

Cut stale bread in thick slices; brown in a moderate oven.

EGGNOG

1 egg
½ tablespoon sugar
¾ cup cold milk
A few grains salt

Beat the egg slightly; add the sugar and the salt; flavor with nutmeg and with a little vanilla; add the milk gradually; strain and serve.

BEEF JUICE

Broil a round steak, leaving it rare; cut in small pieces; squeeze the juice from each piece into a warm cup; season with salt, and serve.

BEEF TEA

½ kilo round beefsteak
2 cups cold water
Salt

Chop the beef; put it in a covered glass jar; set in cold water; bring the water to a boil, then lower the temperature to 54°C (130°F); keep at this temperature for 2 hours; then increase the temperature until the liquid becomes chocolate-colored and until the albuminous juices are slightly coagulated, otherwise the tea will have a raw taste. Strain the juice, season, and serve hot.

CUP CUSTARD

1 cup hot milk
1 tablespoon sugar
1 egg
Salt
Nutmeg

Beat the egg slightly; add the sugar and the salt; stir in the hot milk; strain into a cup; grate nutmeg over the top; steam until firm over water that is boiling gently. Serve cold. If cooked at the proper temperature the custard will be smooth and firm. If it is cooked too fast and at too high a temperature, the custard will be watery and full of holes.

BROILED CHICKEN

Dress a fat young chicken; singe, clean, split, wipe, and sprinkle with salt; place in a well-greased broiler with the skin side up; broil about 20 minutes over a clear fire, watching carefully and turning the broiler so all parts can brown evenly. The flesh side needs longer exposure to the fire; the skin side cooks quickly and is apt to burn. When done, remove to a hot plate; sprinkle with salt and spread with soft butter.

SCRAPED BEEF

Scraped beef is good for those who cannot easily digest solid meat. Take a piece of round steak as large as the hand; hold it firmly by one corner and scrape the pulp from the fiber with a spoon. Turn the meat over and scrape the other side. The red pulp should be seasoned with salt, should be formed into a little cake, and should be placed for a moment in a dry hot frying pan over a hot fire or in a hot oven. Turn only once. Serve with mashed potato.

MISCELLANEOUS

COCONUT MILK

Grate the meat of a fresh coconut; place it in a strainer of wire or of sinamay and hold over a shallow dish. Moisten well with water and work the liquid contained in the meat of the coconut through the strainer. This liquid has many of the qualities of milk, and is rich in fat. Often it may be used instead of milk.

COCONUT BUTTER

This recipe for making coconut butter is used in Trinidad, British West Indies, and was introduced into the Philippines by the Bureau of Science:

For making ½ kilo of butter, grate 4 large coconuts. Divide them for convenience into two lots, putting each lot in a large square piece of cotton cloth placed in a large bowl. Pour boiling water over the grated coconut in each bowl, completely covering the coconut. Take up the four corners of the cloth, moving it gently about in the boiling water, thoroughly washing the grated coconut. Do this for about 3 minutes; then tie the four corners of the cloth together; suspend the bag thus made over the bowl. As soon as it is cool enough to handle, wring hard until no liquid is left in the grated coconut. The coconut may then be given to the chickens. Set the bowls of liquid aside in a cool place for at least 13 hours. A rich thick cream will rise to the surface. Skim the cream and put it in a glass churn or in a glass jar with a rubber and a screw top. Before churning, it is better to let the churn or the jar stand in the ice box for about 15 minutes; or a very small piece of ice may be put in with the cream while churning. If a churn is used, churn the cream in the ordinary way; if a jar is used, adjust the rubber and screw the top on tightly. Shake the jar until the butter comes. Pour off the water or milk; put the butter in a bowl. Work it gently with a fork to separate it from the water or milk remaining; pour this off and mold the butter; keep it in a cold place. Enough salt to suit the taste should be worked into the butter with the fork. Coconut butter is pure white. Harmless coloring matter may be worked into it to make it look like butter made from cow's milk.

Experiments in the Bureau of Science have shown that butter may be separated from the cream by using an ordinary ice-cream freezer instead of a churn or a glass jar.

Coconut butter makes a domestic substitute for the butter made from cow's milk. It has a slight laxative effect and if taken in large quantities may relieve constipation.

POP CORN

In a large deep frying pan put a tablespoon of lard or butter and ½ teaspoon of salt. When the pan is very hot, throw in a handful of pop corn and cover. Shake the pan gently while the corn is popping.

LIBRARY PASTE

(*a*) ½ kilo sifted wheat flour
1 tablespoon powdered alum
15 drops formalin
Water to give desired consistency

Dissolve the alum in water; add the flour; boil, stirring constantly. Add the formalin after cooking. Keep the paste in covered paste bottles.

(*b*) ½ cup flour
½ cup cold water
1¼ cups boiling water
1 teaspoon powdered alum
1 teaspoon essence of peppermint

Mix the flour, the alum, and the cold water; pour slowly into boiling water; cook until well thickened. Remove from the fire; add the peppermint. Keep in paste bottles or in paste jars.

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